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CARTHAGE, N.C.

POPULATION AND ECONOMY
LAND USE AND ANALYSIS
LAND DEVELOPMENT PLAN

GENERAL PLAN

CARTHAGE, N.C.

POPULATION AND ECONOMY

LAND USE AND ANALYSIS

LAND DEVELOPMENT PLAN

GENERAL PLAN

The preparation of this report was financially aided through a Federal grant from the Urban Renewal Administration of the Housing and Home Finance Agency under the Urban Planning Assistance Program authorized by Section 701 of the Housing Act of 1954, as amended.

PREPARED FOR:

TOWN OF CARTHAGE, NORTH CAROLINA

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INTRODUCTION

PLANNING LEGISLATION IN NORTH CAROLINA

GENERAL STATUTES 160-22

"Every city and town in the State is authorized to create a Board to be known as the Planning Board, whose duty it shall be to make careful study of the resources, possibilities and needs of the city or town, particularly with respect to the conditions which may be injurious to the public welfare or otherwise injurious, and to make plans for the dwvelopment of the municipality..."

CHAPTER I

INTRODUCTION

In January, 1963, the Town of Carthage contracted with the Division of Community Planning for technical assistance in planning for the town and the area within one mile of the corporate limits. This assistance was requested because the citizens of Carthage realized that their town was losing population and business trends were falling off. Recognizing these facts, the Mayor and Town Commissioners entered into a contract for the following studies:

1. Base Mapping
2. Land Use Survey and Analysis
3. Population and Economy Study
4. Land Development Plan
5. Zoning Ordinance
6. Subdivision Regulations

These studies are being partially financed through an urban planning assistance grant from the Housing and Home Finance Agency of the United States Government under the provisions of Section 701 of the Housing Act of 1954, as amended. To date, the base mapping has been completed. The map is drawn to a scale of 400 feet to one inch and shows streets and other public ways, major easements, drainage ways, bodies of water, and other permanent features. This map will be a tremendous help in coordinating future facilities and utilities.

The Town of Carthage may not be able to develop a zoning ordinance for the corporate limits and the one-mile extraterritorial jurisdiction because the town does not meet the population requirement. At the last decennial census, Carthage had a population of 1,194; it needs a population of at least 1,250. Also, Moore County will have to lift the exemption it has placed on all towns within its jurisdiction. Once these two requirements are met, Carthage can obtain extraterritorial zoning for the fringe area.

The subdivision regulations being prepared for the planning area, if adopted, will give the town the power to review subdivision plats of prospective developments within the town and within the one-mile area. The subdivision regulations will set forth the manner in which preliminary plats and final plats shall be prepared and the information which they will contain. It will also set forth design standards, monumentation and improvements required in the process of land subdivision.

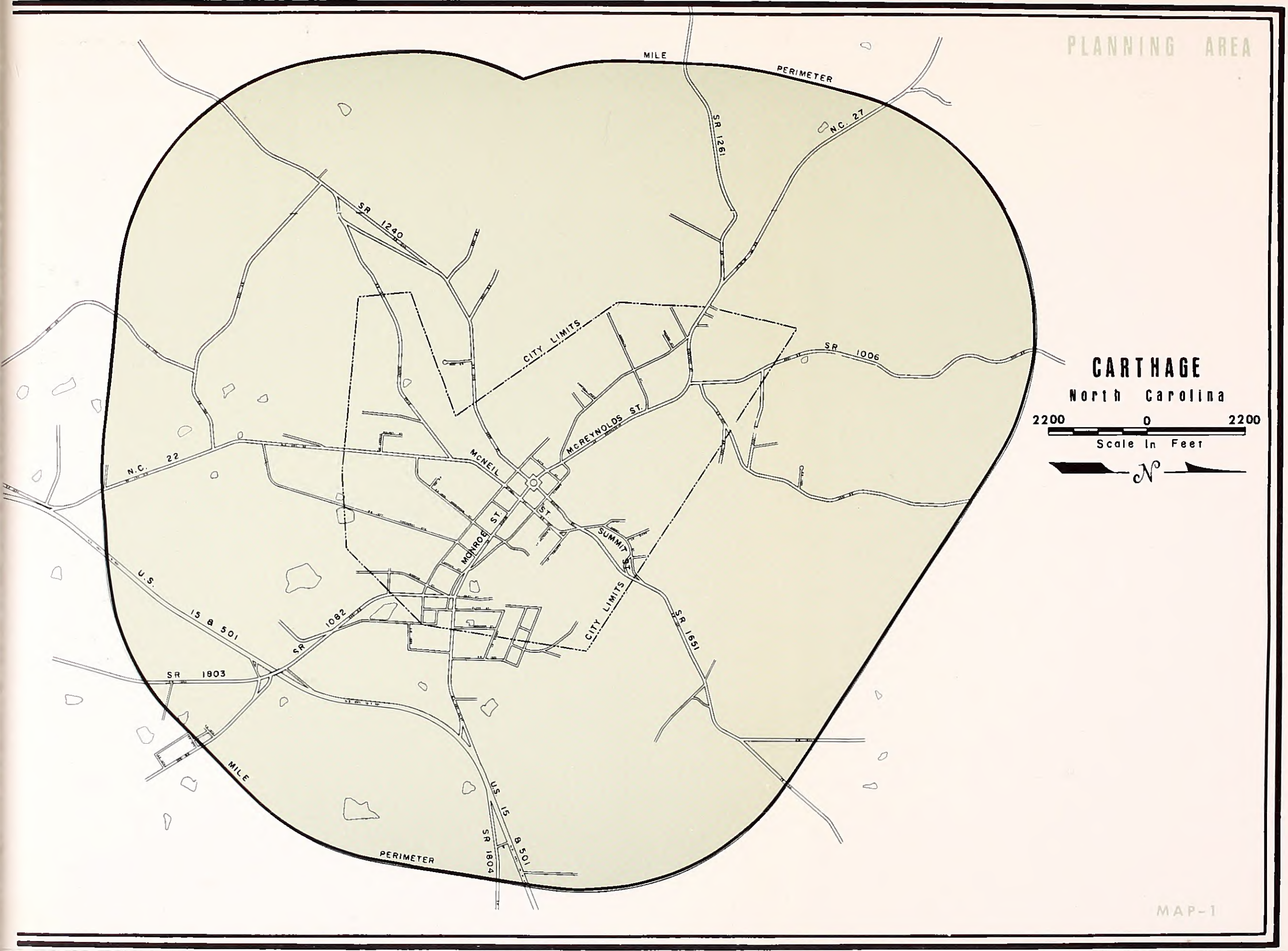
When the studies are completed and have been adopted, the Town of Carthage should be in a position to shape its own future instead of sitting back and hoping for the best.

PURPOSE

The main purpose of this study is to provide the guidelines on which good planning can be based. It will analyze the social, cultural, financial and physical aspects of land within the corporate limits and the one-mile perimeter area, and set the stage for the Land Development Plan which is also included in this report. The Land Development Plan depicts the highest and best use for all of the land in Carthage.

Chapter II discusses the population and economy report, which is usually a separate report. A detailed analysis has been made of population and employment characteristics, housing conditions, education levels and income distribution. Comparisons were made to Moore County, the State of North Carolina, and the United States. This section will aid greatly in making valid assumptions and estimates in the Land Development Plan.

Chapter III covers the land use aspects of the planning area. Such data as history, physical setting, accessibility, topography, soils and land capabilities, climate, existing water and sanitary sewage systems, and finally the land use problems which were found in the planning area when the land use survey was taken.



PLANNING AREA

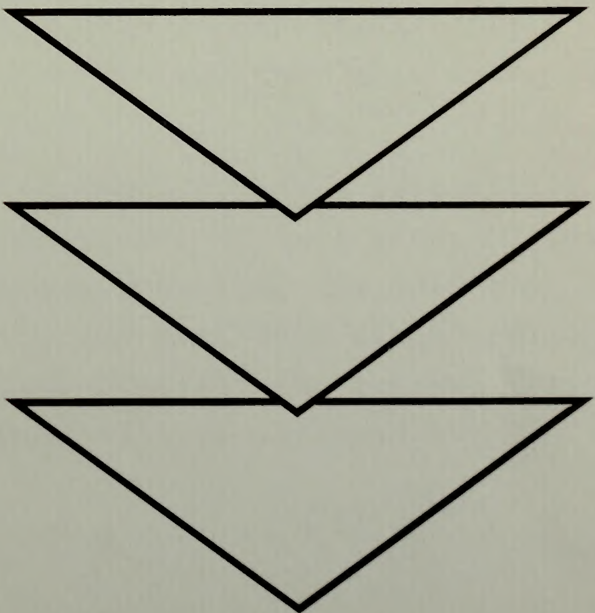
CARTHAGE

North Carolina

MAP-1

2200
0
2200
Scale In Feet
N
MILE
PERIMETER
SR 1261
N.C. 27
SR 1240
CITY LIMITS
SR 1006
McREYNOLDS ST.
McNEIL
ST.
N.C. 22
MONROE
ST.
ST.
SUMMIT
ST.
CITY LIMITS
SR 1651
U.S.
15 & 501
SR 1082
SR 1803
MILE
US 15
& 501
SR 1804
PERIMETER

POPULATION



CHAPTER II

POPULATION

GENERAL TRENDS

In the decades from 1900 to 1960 the population of Carthage increased from 605 persons to 1,190 persons. However, since 1940 the population has been increasing at a decreasing rate. The population projection indicates that the population will be only 1,136 in 1970, and for 1980 only 1,045. If past trends remain the same, the town will still be increasing at a decreasing rate. Population projections are not predictions but calculations based upon past trends and the assumption that they will continue in the future. There are many factors which could result in a population quite different from the one projected; for example, an introduction of a new industry or a major annexation will greatly affect these projections. The projections are to be used as a guide to show what the population of a town, township or county will be if they continue in the future as they have been in the past. Graph 1 and Table 1 illustrate that the pattern of growth has been somewhat erratic.

The growth patterns of Moore County have been a little more stable. From 1900 to 1920 the County lost population which was due to part of the area being taken from Moore County to form part of Lee County and not to out-migration of the people. From 1930 to 1960 the County experienced a steady gain in population, and the population projections for 1970 and 1980 indicate that this trend will continue.

Five of the ten townships shown on Table 2 have a possibility of increasing in the future. It is impossible to tell about Little River Township because Census data is not available for 1940 to 1950. These trends are probably due to the declining agricultural employment throughout the United States; however, the reasons for the declines in the other five townships will be explored in greater detail in other sections.

TABLE 1 POPULATION TRENDS 1900-1960
MOORE COUNTY, CARTHAGE TOWNSHIP AND CARTHAGE

	Moore County	Carthage Township	Carthage
1900	23,622*	3,127	605
1910	17,010	3,152	863
Per Cent Change	-28.0	+0.8	+42.6
1920	21,388	3,925	962
Per Cent Change	+25.7	+24.5	+11.5
1930	28,215	3,985	1,129
Per Cent Change	+31.9	+1.5	+17.4
1940	30,969	4,769	1,381
Per Cent Change	+ 9.8	+19.7	+22.3
1950	33,129	4,913	1,194
Per Cent Change	+ 7.0	+3.0	-13.5
1960	36,733	4,788**	1,190**
Per Cent Change	+10.9	-2.5	- 0.3

*Part taken to form part of Lee County in 1908.
**Part of Carthage Township annexed to Carthage.
Source: U. S. Bureau of Census. Computed by N. C. Division of Community Planning

TABLE 2 POPULATION BY TOWNSHIPS - 1940-1960

	1940	1950	1960
Carthage Township	4,769	4,913	4,788
Bensalem Township	2,574	2,297	2,565
Sheffields Township	3,687	4,057	4,418
Ritters Township	1,652	1,475	2,000
Deep River Township	682	454	426
Greenwood Township	2,266	2,347	2,058
McNeills Township	6,314	7,716	8,895
Sand Hill Township	4,117	5,379	5,476
Mineral Spring Township	4,908	4,491	5,419
Little River Township	--	--	688
MOORE COUNTY	30,969	33,129	36,733

Source: U. S. Bureau of Census

Migration Trends

The Moore County natural population increase (births minus deaths) during the decade was added to the 1950 population to derive the expected 1960 population. This figure was then subtracted from the actual 1960 population and the result obtained was the number of persons lost during the decade because of out-migration. A point should be made here to clear up a misconception some people have when analyzing this table. Out-migration does not necessarily indicate a loss in population. In fact population increases are noted in many cases. It does, however, indicate that the population is not as large as it would have been if these people had remained in the area.

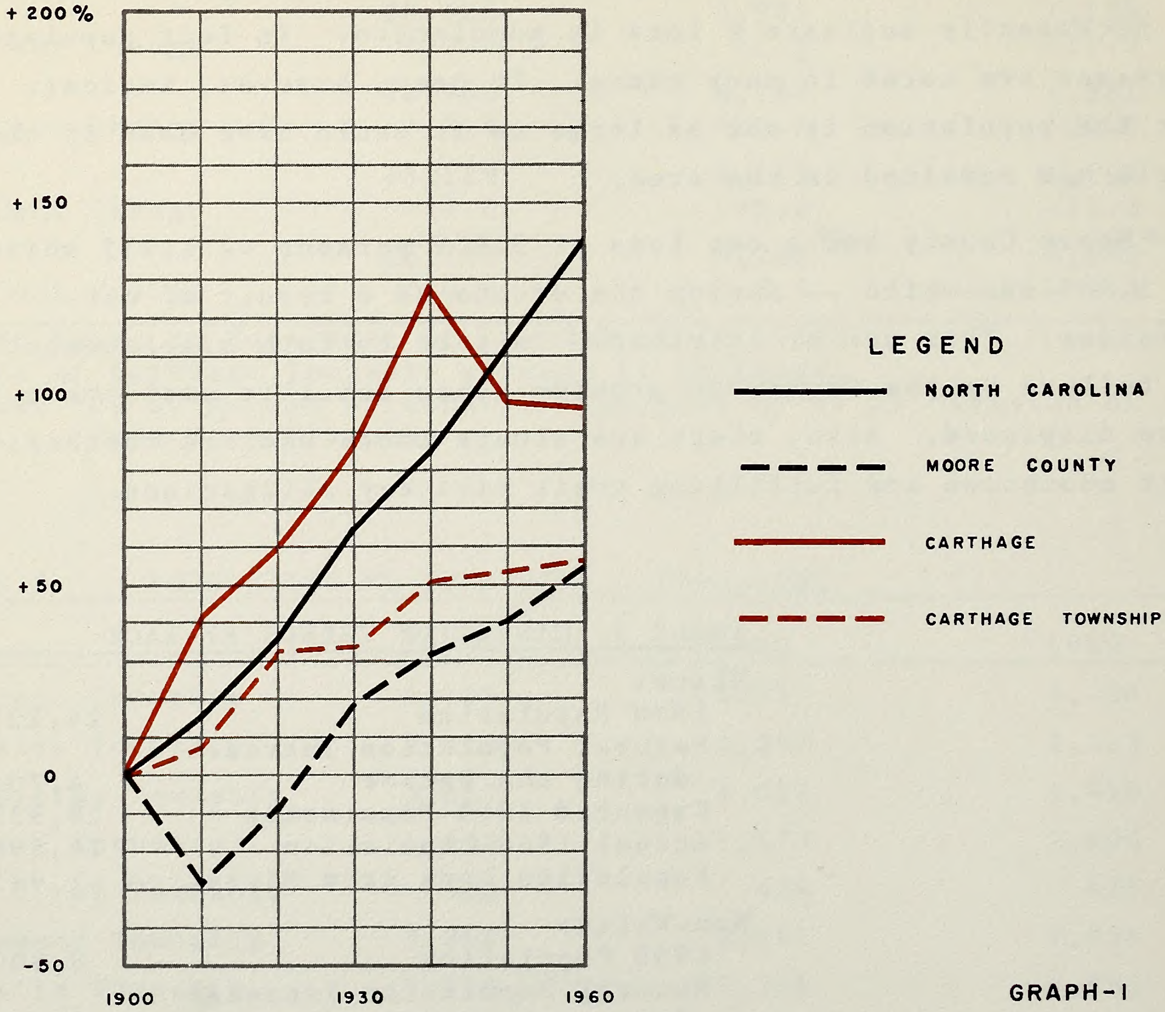
Moore County had a net loss of 3,419 persons -- 1,935 white and 1,484 non-white -- during the decade as a result of out-migration. This can be attributed in part to farm displacement and failure by the County to provide other suitable employment for those displaced. Also, there are always those who are furthering their education and fulfilling their military obligations.

TABLE 3 MIGRATION TRENDS BY RACE

White:	
1950 Population	24,229
Natural Population Increase during the Decade	4,704
Expected 1960 Population	28,933
Actual 1960 Population	26,998
Population Loss from Migration	-1,935
Non-White:	
1950 Population	8,900
Natural Population Increase during the Decade	2,319
Expected 1960 Population	11,219
Actual 1960 Population	9,735
Population Loss from Migration	-1,484
Total Loss	3,419

Source: U. S. Bureau of Census

POPULATION CHANGE CARTHAGE, MOORE COUNTY AND NORTH CAROLINA 1900-1960



GRAPH-1

NET MIGRATION BY AGE, SEX & RACE

MOORE COUNTY

WHITE

MALE

GROUP	1950	1960		% OF 1950 GROUP PRESENT IN 1960
UNDER 5	1426			
5 - 9	1336			
10 - 14	1117	1407	-19	98.7
15 - 19	1009	1178	-158	113.4
20 - 24	954	736	-381	65.9
25 - 29	1831	807	-202	80.0
30 - 34		870	-84	91.2
35 - 44	1533	1727	-104	94.3
45 - 54		1390	-143	90.7

FEMALE

GROUP	1950	1960		% OF 1950 GROUP PRESENT IN 1960
UNDER 5	1408			
5 - 9	1216			
10 - 14	1141	1458	+50	96.6
15 - 19	1063	1264	+48	96.2
20 - 24	905	798	-343	69.9
25 - 29	1863	784	-279	73.8
30 - 34		879	-26	97.1
35 - 44	1534	1787	-76	95.9
45 - 54		1550	+16	99.0

NON-WHITE

MALE

GROUP	1950	1960		% OF 1950 GROUP PRESENT IN 1960
UNDER 5	596			
5 - 9	547			
10 - 14	478	590	-6	101.0
15 - 19	473	478	-69	114.4
20 - 24	325	239	-239	50.0
25 - 29	530	223	-250	47.1
30 - 34		206	-119	63.4
35 - 44	479	479	-51	90.4
45 - 54		440	-39	91.9

FEMALE

GROUP	1950	1960		% OF 1950 GROUP PRESENT IN 1960
UNDER 5	529			
5 - 9	510			
10 - 14	483	510	-19	96.4
15 - 19	495	440	-70	86.3
20 - 24	374	270	-213	55.9
25 - 29	643	269	-226	53.7
30 - 34		272	-102	72.7
35 - 44	544	549	-94	85.0
45 - 54		539	-5	99.0

TABLE - 4

Net Migration by Age, Sex and Race for Moore County

Table 4 provides a detailed picture of Moore County's migration trends by age sex and race. Out-migration is generally larger for non-whites than whites; and as a per cent it is somewhat larger for males than females. Out-migration for white males is higher in all age groups compared to white females. It should be noted that out-migration was larger than in-migration and heaviest in the young productive age groups. Migration trends for white females are similar to those for white males, differing mainly in the 5-9, 10-14 and 45-54 age groups. Non-white trends for the County show both males and females experienced out-migration in all age groups. The heaviest concentration was in the 15-19, 20-24, and 25-29 age groups.

Composition of the Population

The main purpose of this section is to determine the kinds of people comprising the Carthage and Moore County population. This is very important because such characteristics as these help determine the composition of the labor force, school enrollment consumption patterns, and so forth.

Age Group Trends

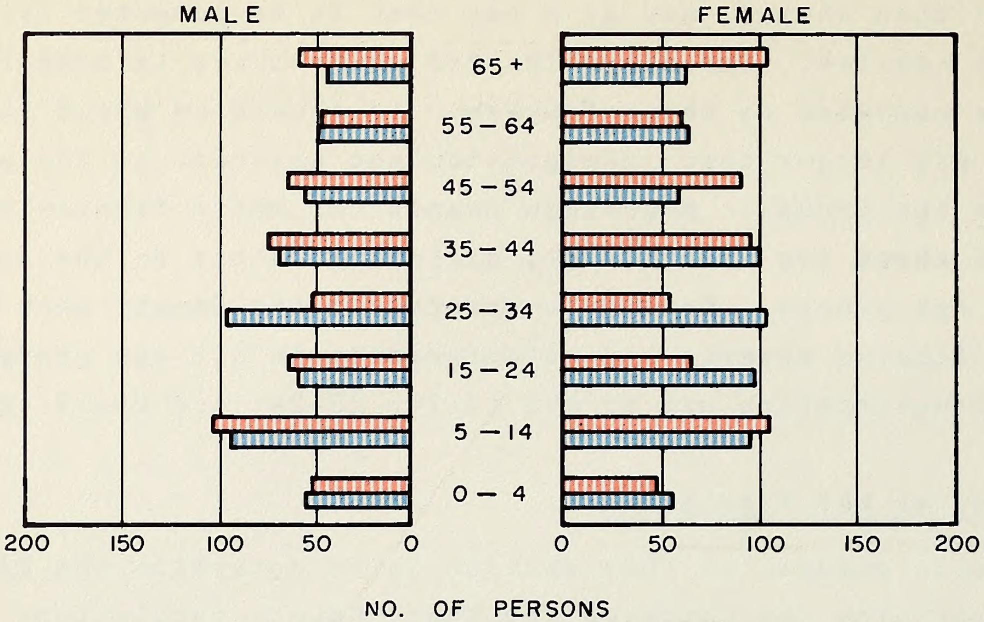
Chart 1 shows 1950 to 1960 population trends by age groups for the Town of Carthage and Moore County. Due to the lack of census data for 1950 and 1960 for non-white age groups, a comparison could not be made with other townships or with Moore County. However, this data was avilable for 1960 for the Town of Carthage but not for past decades, except for total population. Generally, the total population for non-white males was 52; for non-white females, 48. The heaviest concentration of non-white males was in the 10-14 age group; for the non-white female it was in the 50-54 age group.

The most noticeable loss in population was in the 25-34 age group -- approximately 100 persons. This could be attributed to

COMPOSITION OF THE POPULATION BY AGE, SEX AND RACE

1950 - 1960

CARTHAGE



MOORE COUNTY

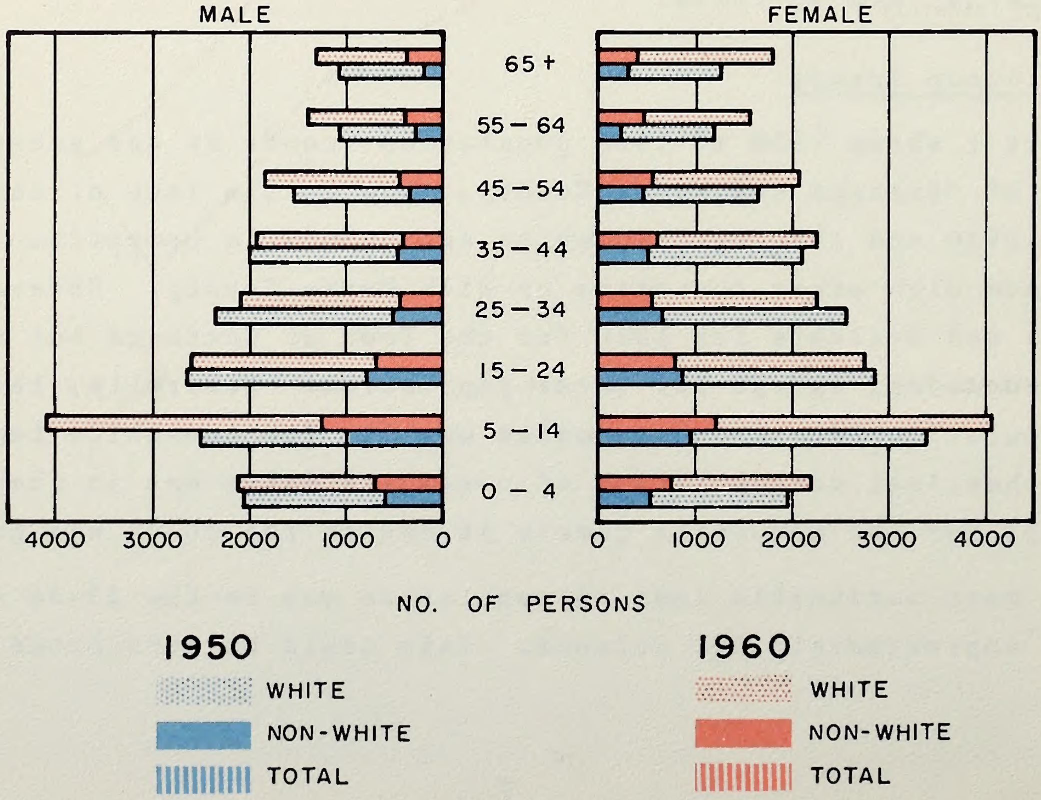


CHART - I

out-migration to seek better employment opportunities in other urban areas. In general, the overall trend for the town has been a slight decrease in the number of children, a decrease in the number of young adults, and an increase in the number of older adults. The trend for Moore County is similar except that the number of children actually increased. Also, the overall loss of young adults was somewhat greater and the increase in older adults was not quite as pronounced. Another significant fact that Chart 1 shows is that a very large percentage of those leaving the County is non-white.

To better understand the changing complexion of the population, note Chart 2 which shows the group structures of Carthage and Moore County populations in 1950 and compares them with the group structures projected for 1980. In both, the most noticeable change is the rapid decrease in the proportion of young productive adults and the sizable increase in the proportion of retired persons. In the remaining groups -- pre-school, school, and established productive -- only minor changes are anticipated. Mainly, the trend is toward decreasing proportions of productive age persons and increasing proportions of non-productive persons under the classification of school age (5-19). This group will have a slight decrease in numbers. The overall picture shows that the proportion of persons actually providing support is decreasing and the proportion dependent upon support is increasing. Therefore, each productive member of the population will have to support increasing numbers of non-productive persons.

Sex

Both Carthage and Moore County contain fewer males than females; however, the trends of the two, past and projected, are somewhat different. In Carthage the proportion of males is increasing, and expected to continue to do so in the future; the proportion of males in Moore County is decreasing slightly. The trends for females are exactly opposite. The proportion of females is decreasing slightly in Carthage and increasing in the County.

TABLE 5 MALE AND FEMALE POPULATION AS A PER CENT OF TOTAL POPULATION

	Town of Carthage		Moore County	
Year	Per Cent Male	Per Cent Female	Per Cent Male	Per Cent Female
1950	45.9	54.0	49.3	50.7
1960	47.3	52.7	48.5	51.5
		PROJECTED		
1970	47.8	52.2	47.7	52.3
1980	48.1	51.9	47.1	52.9

Source: N. C. Division of Community Planning

Race

The proportion of whites to non-whites in the Town of Carthage has increased since 1950, and this trend is expected to continue into the future. The County had a slight decrease in the non-white population since 1950, but this trend is expected to change somewhat in the future mainly because of the number of non-whites in the childbearing ages, plus non-whites tend generally to have larger families than do whites. In 1960 Moore County, with 26.5 per cent of the population non-white, contained a higher proportion of non-whites than the Town of Carthage, with 8.4 per cent. Moore County is over the State proportion of 25.4 per cent by only 1.1 per cent.

TABLE 6 WHITE AND NON-WHITE POPULATION AS A PER CENT OF TOTAL POPULATION, CARTHAGE AND MOORE COUNTY

	Town of Carthage		Moore County	
Year	Per Cent White	Per Cent Non-White	Per Cent White	Per Cent Non-White
1950	90.8	9.2	73.1	26.9
1960	91.6	8.4	73.5	26.5
		PROJECTED		
1970	92.3	7.7	72.6	27.4
1980	93.0	7.0	71.6	28.4

Source: N. C. Division of Community Planning

PERCENT DISTRIBUTION OF THE POPULATION BY SOCIAL & ECONOMIC GROUPS

1950-1980

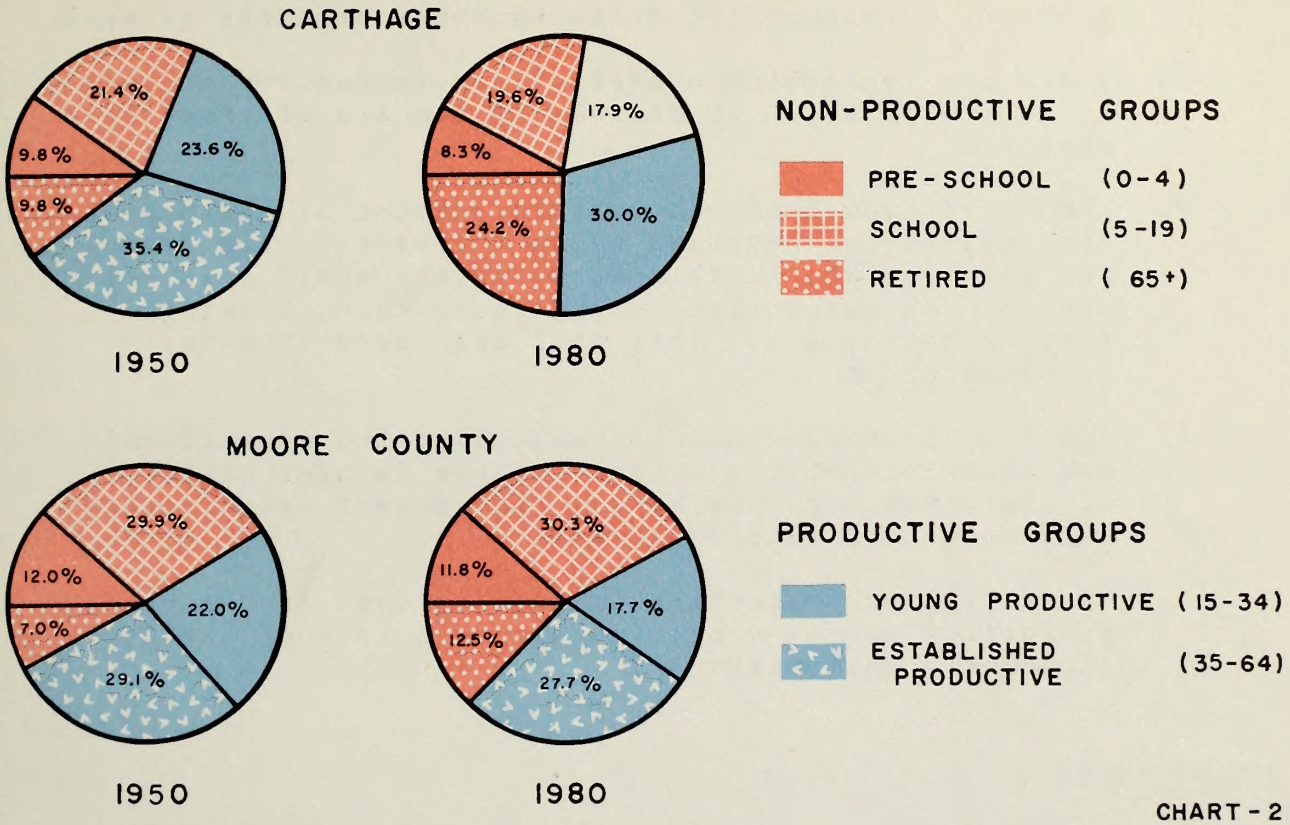


CHART-2

SUMMARY AND SIGNIFICANCE OF POPULATION TRENDS

The low growth rate of Carthage and Moore County is primarily a result of out-migration. The largest part of this out-migration is white, but significant non-white migration has taken place also. Basically, it is attributable to declining agricultural employment coupled with the County's failure to provide employment comparable to that offered in larger urban areas. As a result of farm displacement, automation, and so forth, the young productive adults are seeking employment elsewhere and leaving a population which is becoming increasingly aged and containing increasing proportions of citizens of non-productive ages.

Several of the most significant points resulting from the changing complexion of the population are:

1. Carthage and Moore County are both losing some of the most capable and productive citizens by not supplying an adequate economy to absorb these people. Not only is this hurting the quality of the labor force, but also adversely affects the demand for new homes, automobiles, furniture and other consumer products as well.

2. There are increasing number of non-productive persons to be provided for by decreasing numbers of productive persons.

3. The large growth of the retired segment of the population will be accompanied by an increase in the demand for services and facilities oriented toward this segment of the population, e.g., recreation, housing, nursing homes, etc. This will also hold true for consumer goods.

4. There will be some need of expanding the educational and recreational facilities for the younger citizens of the community. Remedying the present deficiencies will more than likely suffice.

5. Generally, out-migration is the heaviest in the young productive groups due primarily to a lack of sufficient economic opportunity.

SOCIAL CHARACTERISTICS

SOCIAL CHARACTERISTICS

Three very important interrelated qualitative aspects will be analyzed in this section -- income, education, and housing -- which more than any other determine the style and standard of living to be enjoyed by the residents of an area.

INCOME

Family income levels in Carthage are quite a bit lower than those in Urban United States, Urban North Carolina and Moore County. The mean family income of $3,863 in Carthage, and the mean family income of $4,614 in Moore County are approximately $3,385 and $2,633, respectively, less than the mean family income in Urban areas in the United States. Moreover, per capita income in Carthage is approximately $1,031 less than that of Urban United States, and Moore County is approximately $803 less.

Viewing family income levels by race, the attainment for non-whites in both Carthage and Moore County is substantially below the town and county as a whole. Non-white mean family income at $1,734 in Carthage and $2,122 in the County are approximately $2,129 and $1,644, respectively, less than the town or county.

Mean family income, median family income,and per capita income are higher in the Moore County area for both white and non-white than in the Town of Carthage. It is quite evident that low Negro incomes are largely responsible for the low income levels present in Carthage and Moore County, and serve to exert a burdensome drag on the local economy.

1959 INCOME MEASURES

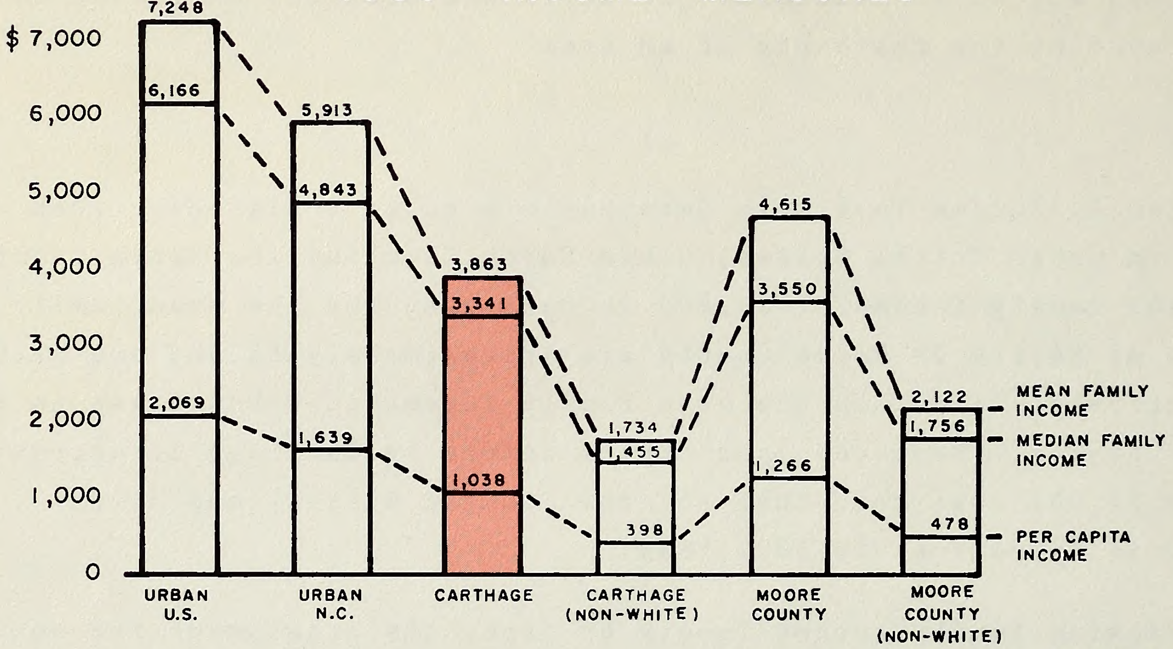


CHART-3

EDUCATION

Thirty per cent of the white adults in Carthage have completed at least four years of high school. This figure is approximately 16 per cent lower than Urban United States and 12 per cent lower than Urban North Carolina. Seventeen per cent of the white population has had less than four years of high school and 52 per cent has had less than eight years of schooling. Thirteen per cent of the non-white population in Carthage has had four years of high school and beyond. Unfortunately 87 per cent have not completed grammar school and high school.

PERCENT OF SCHOOL GRADES COMPLETED

FOR ADULTS 25 YEARS OF AGE AND OLDER

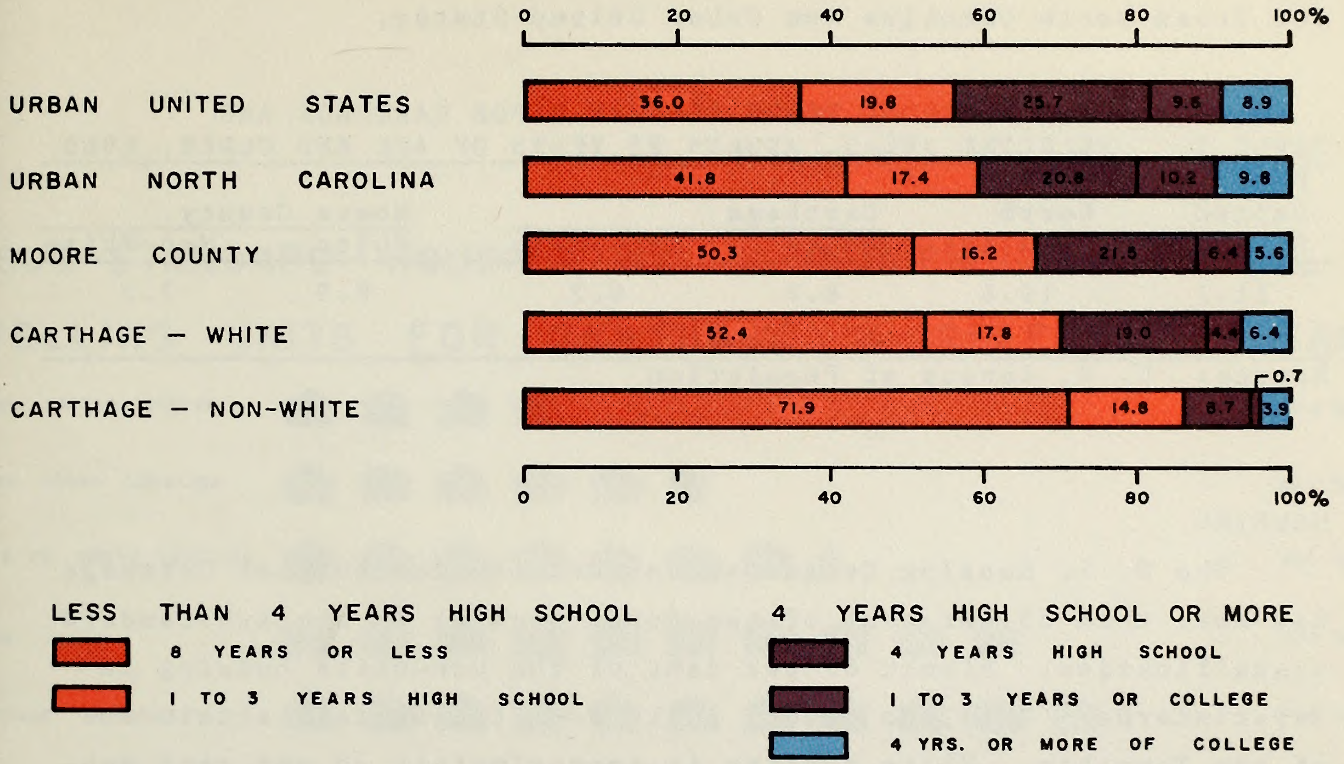


CHART - 4

Education is the key to leadership and the educated persons supply talent and energy to the community. Roughly two-thirds of the total population in Carthage have had less than four years of high school. The one-third represented in the high school and college group must supply leadership necessary to keep the Town of Carthage alive and on the move. Emphasis should be placed on the educational system and the training of unskilled laborers, plus job opportunities in new or expanded industries to reduce out-migration.

Another method of viewing educational attainment is to compare the median school years completed in selected areas and segments of the population. The median school years completed for Carthage and Moore County for whites and non-whites are quite a bit lower than for Urban North Carolina and Urban United States.

TABLE 7 MEDIAN SCHOOL YEARS COMPLETED FOR CARTHAGE AND SELECTED AREAS, ADULTS 25 YEARS OF AGE AND OLDER, 1960

Urban United States	Urban North Carolina	Carthage		Moore County	
		White	Non-White	White	Non-White
11.1	10.4	8.8	6.7	8.9	7.2

Source: U. S. Census of Population

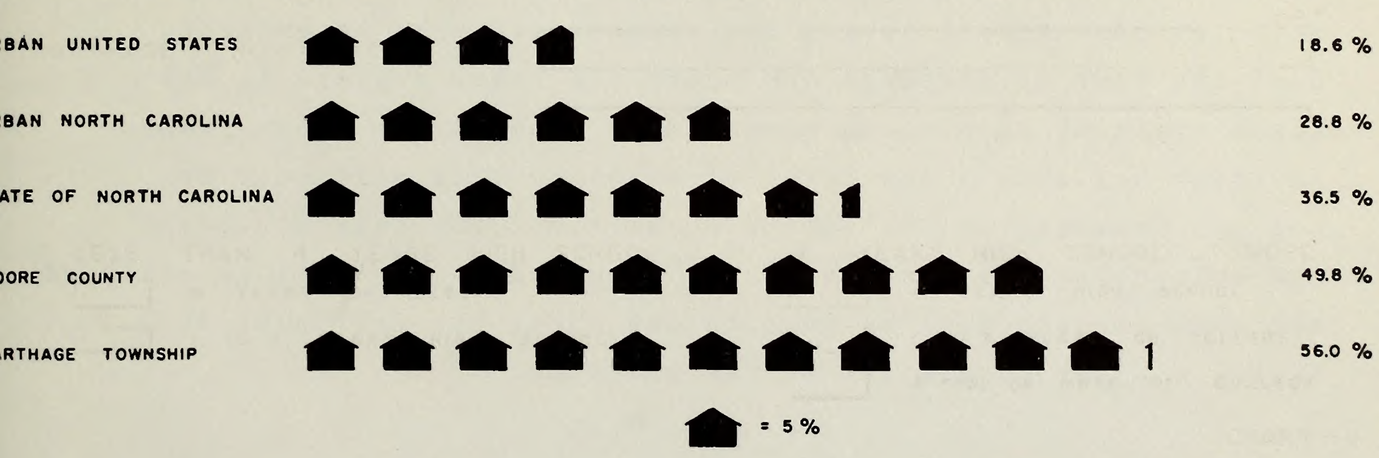
HOUSING

The U. S. Housing Census shows that the Township of Carthage has more than 55 per cent of the total housing in the substandard classification. Almost 85 per cent of the non-white housing is substandards. This, no doubt, pulls down the overall attainment of the Township. White housing is approximately 48 per cent substandard. In contrast, Urban North Carolina has approximately 36 per cent in the substandard category; Urban United States has about 18 per cent.

The quality of housing in Moore County is an extremely poor 50 per cent substandard. Only 58 per cent of the white housing and 17 per cent of the non-white housing are standard.

The approach of the U. S. Census takers to grading or rating housing conditions is quite different from that used in the land use analysis (treated in another section of this report). The Census Bureau bases percentages on plumbing facilities and living space for the family itself. The land use analysis survey by the Division of Community Planning evaluated the outside structural condition, maintenance and environment. There will be a big difference in percentages. However, the Census figures are likely to be more accurate because the census takers go into the dwelling unit and examine the interior of the dwelling

SUB-STANDARD HOUSING AS A PERCENT OF TOTAL
WELLING UNITS FOR CARTHAGE & SELECTED AREAS



STANDARD & SUB-STANDARD HOUSING AS A PERCENT
F TOTAL DWELLING UNITS BY RACE FOR CARTHAGE

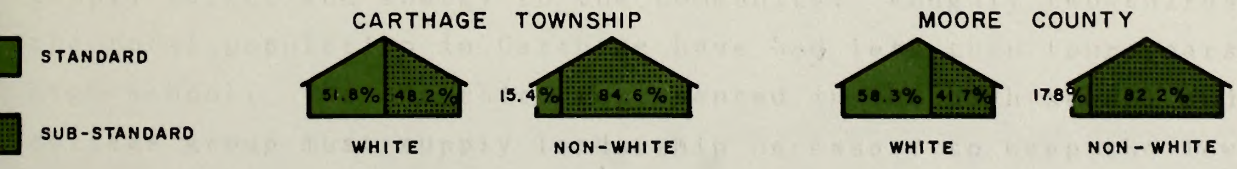


CHART - 5

SUMMARY

In most cases, income, education and housing are closely related. Where educational levels are high it can be expected that income and and housing levels will also be fairly high. With low educational levels the reverse can also be evident. Both the Town of Carthage and Moore are below average in the three areas of attainment compared to other urban areas. Why Carthage has such a low level of attainment is difficult to answer; however, in the following sections the economic base and occupational structure of the town and county will be analyzed and some answers will be ascertained about the low level of income and per capita income for the town.

ECONOMIC CHARACTERISTICS

ECONOMIC CHARACTERISTICS

All towns and cities owe their existence to some form of economic activity. The purpose of this section is to bring to light and evaluate the composition of the economic base upon which the Town of Carthage is dependent.

DIVERSIFICATION AND SPECIALIZATION OF THE ECONOMIC BASE

An indication of the degree of development in the different sections of the local economy are compared to the same development in the United States in Table 8. Carthage employment as related to the National scene is highly developed in agriculture, manufacturing, retail trades and personal services. However, unlike most Piedmont towns of comparable size, manufacturing employment is underdeveloped but forestry and agriculture employment are both substantial.

Carthage is the County Seat of Moore County and has a high percentage of workers in public administration. People transacting business around the County Seat do some of their shopping as well as seek entertainment and recreation in the area. This accounts for the high percentage in retailing and entertainment.

Moore County employment is highly developed in agriculture, manufacturing and recreation, but not in the trades and services.

Four activities -- agriculture, manufacturing, commerce and professional services account for the vast majority of total manufacturing employment in both Carthage and Moore County (70 per cent in the former and 71 per cent in the latter). Chart 6 illustrates employment distribution in the manufacturing section inedpendently.

TABLE 8 PER CENT OF TOTAL EMPLOYMENT REPRESENTED IN SELECTED MAJOR INDUSTRY GROUPS, CARTHAGE AND MOORE COUNTY, COMPARED TO THE UNITED STATES, 1960

	Per Cent of Total Carthage Employment	Per Cent of Total Moore County Employment	Per Cent of Total United States Employment
Agriculture, forestry, fisheries, & mining	15.5	13.1	7.7
Construction	8.8	5.5	5.9
Manufacturing	21.0	28.5	27.1
Transportation, communication, & utilities	1.9	3.4	6.9
Wholesale trade	1.4	1.6	3.2
Retail trade	13.0	11.0	15.0
Finance, insurance & real estate	--	2.3	4.2
Business & repair services	2.1	1.9	2.5
Personal service including entertainment & recreation	10.9	16.0	6.8
All education	6.5	4.2	5.2
Medical, hospital & related	5.8	6.0	6.5
Public administration	5.1	2.8	5.0
Industries not reported	8.0	3.7	4.0
TOTAL	100.0	100.0	100.0

Source: U. S. Census of Business

PERCENT DISTRIBUTION OF MANUFACTURING EMPLOYMENT 1960

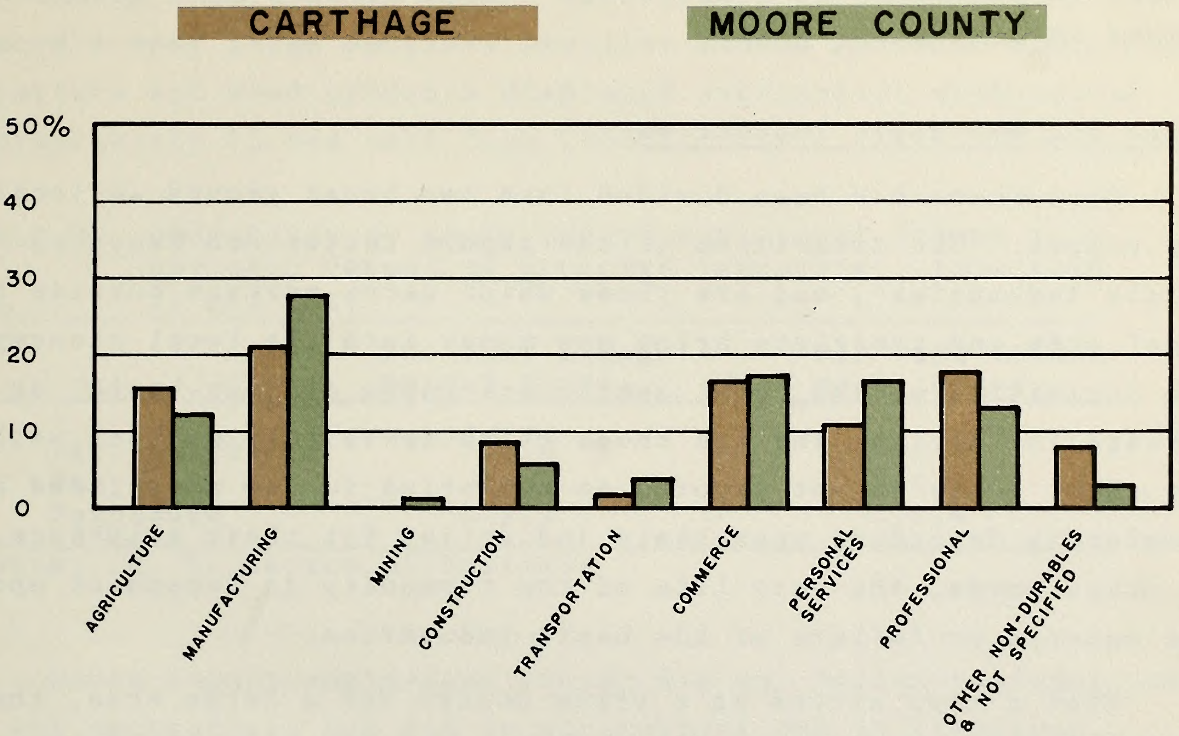


CHART-6

In summary, Carthage is a town based on an agricultural economy with a trend toward a slight degree of commercial specialization; Moore County is an area of high manufacturing and agricultural specialization. In both, manufacturing activity is almost completely dominated by textiles, lumber, wood and furniture activity which indicates a lack of manufacturing diversification.

Five of the fourteen major manufacturing classifications for the County (lumber, primary metals, motor vehicle transportation, and other durable goods) decreased from 1950 to 1960. Agriculture was also reduced over the same period in the County. Substantial increase was noticed in all other employment categories. Employment figures for the Town of Carthage were not available for 1950; however, like most Piedmont towns, the trend is toward the textile and lumber industries with employment being the greatest in these. The 1960 census shows the town having 351 people employed in manufacturing industries, 241 of whom were employed in textiles and lumber industries.

Basic and Non-Basic Industries

Employment has been divided into two broad groups -- local and export. The activities of the export sector are known as "basic industries", and are those which serve markets outside the local area and therefore bring new money into the local economy. The activities of the local sector are known as "non-basic" or service industries, and are those which serve only markets within the area. They do not export, do not bring in new money, and are completely dependent upon basic industries for their existence. In other words, the very life of the community is dependent upon the success or failure of the basic industries.

When a town serves as a trade center for a large area, the normally "non-basic" industries (e.g., retail trades, services, medical, etc.), in addition to their normal service functions, also bring in new money to the community and therefore serve as basic industries as well. This is slightly characteristic of Carthage; however, Southern Pines and Pinehurst tend to overshadow the Town of Carthage in this category. A large percentage of the commercial and service employment is dependent upon trade from persons living outside the corporate limits of the town and therefore upon the employment of those persons so residing.

Under the existing circumstances, Carthage and Moore County are dependent upon three "basic industries" -- agriculture, manufacturing (mainly textile-related) and lumber in conjunction with wood and furniture. The welfare of both Carthage and Moore County is almost completely tied to the success or failure of these three activities.

STABILITY OF THE ECONOMIC BASE

Growth Trends

The economic welfare of the town and county is heavily dependent on agriculture, textiles and lumber, wood and furniture. These activities all experienced rather large employment declines nationally from 1950 to 1960. Agriculture in Moore County experienced a very large decline, textiles showed moderate growth and furniture and wood products displayed substantial declines of approximately 15 per cent from 1950.

TABLE 9 COMPARISON OF MOORE COUNTY EMPLOYMENT TRENDS WITH NATIONAL TRENDS IN SELECTED INDUSTRIES, 1950-1960 BY PER CENT

	Per Cent Change United States	Per Cent Change Moore County
Agriculture	-38.4	-36.7
Textile	-10.8	+10.6
Furniture	-22.3	-16.6

Source: U. S. Census of Business

Moore County employment trends did not follow national trends in all categories, but did in agriculture and in furniture. Approximately 33 per cent of the employment in Moore County is in industries which are rapidly decreasing in employment across United States, and it is possible and likely that local trends will follow suit. National trends for these three show a steady decline. Projections for 1970 and 1980 show that agricultural employment is expected to decrease by approximately 62 per cent; furniture and wood products employment by about 29 per cent.

The recent Federal Government action abolishing two price cotton will, in all probability, change the trend in the overall textile industries somewhat. This trend will not necessarily reduce automation but more than likely will speed it on; however, the demand for domestically produced textile products will also increase the demand for plant expansion. Some of this plant expansion should absorb quite a few of those people displaced by automation and two-price cotton. Investigation into industrial expansion and recruitment since the last census seems to bear this out.

The economic base in Carthage is not very stable because of the lack of diversification and heavy dependency on agriculture and lumber-related industries. New jobs must be created to absorb displaced workers and the young high school graduates who enter the labor force every year.

Sensitivity of Local Industry to Change in National Business Cycle

In 1960 approximately 27 per cent of the total labor force in Carthage was employed in industries which were either markedly or highly sensitive to the cyclical fluctuations of the national business cycle. (Table 10.) About 22 per cent were in industries either highly or markedly insensitive, and approximately 27 per cent were in those with an average sensitivity. Some stability in employment can be attributed to the fact that Carthage is the County Seat and serves more as a trade, commercial and governmental center for the County.

The economic base of Moore County, like that of Carthage, is slightly unstable because of the tendency to rely on textiles, lumber, wood and furniture employment. The nature of employment created since 1960, which is mostly textile-oriented, will make the County even more sensitive to the cyclical fluctuations.

Future Employment

The employment projections for 1970 and 1980 are based on past trends of local industries in relation to the national scene. They are not predictions, and in deed, many variables such as the desire and ability to attract new industry, governmental actions, etc., are not taken into consideration. Their importance lies in

TABLE 10 SENSITIVITY OF NON-AGRICULTURAL INDUSTRIES TO CHANGE IN NATIONAL BUSINESS CYCLE, CARTHAGE

Industries	Per Cent Carthage Employment	
GROUP I (Highly Insensitive)		
Communication and Utilities	1.0	
Education	6.5	
Medical and Related Professions	5.8	
Public Administration	5.0	18.3
GROUP II (Markedly Insensitive)		
Food and Kindred Products	2.0	
Printing and Chemicals	--	
Business and Repair Services	2.0	
Finance, Insurance and Real Estate	--	4.0
GROUP III (Average Sensitivity)		
Railroad and Railway Express	--	
Other Transportation	1.8	
Wholesale	1.4	
All Retail	13.5	
Private Households	5.6	
Other Personal Services, Entertainment and Recreation	5.1	27.4
GROUP IV (Markedly Sensitive)		
Furniture, Lumber and Wood Products	6.1	
Textile Mill Products	8.0	
Construction	8.8	22.9
GROUP V (Highly Sensitive)		
Machinery (electrical & non-electrical)	3.9	
Primary and Fabricated Metals	--	
Mining	--	3.9
Sub-Total		76.5
Agriculture, Forestry, Fisheries		15.5
Others and Not Classified		8.0
Total		100.0

Source: N. C. Division of Community Planning

the fact that they give an idea of what employment will be in the future if trends continue as they have in the past, and can facilitate a change in the future course if that which is indicated is not that which is desired. (See Table 11.)

Employment is expected to increase in Carthage by approximately 21 per cent, and Moore County employment is expected to increase by approximately 20 per cent. All areas of commercial, personal services and professional employment are expected to increase -- particularly professional. Manufacturing employment in the town is expected to increase, but there will be a slight decrease of 7.6 per cent (representing approximately 281 workers) in the county. The workers will be lost mainly in the textile, and lumber, wood and furniture industries. The largest decline is anticipated in agriculture, forestry, and fisheries industries, representing a loss of approximately 167 jobs for workers in Carthage and 971 jobs for the overall county.

The Labor Force

The labor force for Carthage in 1960 contained 418 workers; Moore County had 3,174. Females composed approximately 38 per cent of the labor force in Carthage and 40 per cent in Moore County. Almost 56 per cent of the women in Carthage, and 33 per cent of the women in Moore County, are married. Approximately 10 per cent in Carthage and 27 per cent in Moore County had children under six years of age -- another indication that many of those working are doing so to supplement family income.

Table 12 shows approximately 60 per cent of the males in Moore County labor force, and almost 65 per cent of the females, are 35 years of age and older. This is somewhat older than would normally be expected and is more than likely attributable to large outmigration. Investigation into employment created since 1960 shows that it was predominantly male in nature. Moore County had 2,812 non-white males and 3,225 non-white females in the labor force who are 14 years of age or older.

BLE 11 EMPLOYMENT PROJECTIONS, 1970 and 1980, CARTHAGE AND MOORE COUNTY

	CARTHAGE				MOORE COUNTY			
	1960	1970	1980	Per Cent Change 1960-80	1960	1970	1980	Per Cent Change 1960-80
TAL EMPLOYED	1,719	1,878	2,084	+21.2	12,949	13,686	15,481	+19.5
Agri., fors., fishery	267	165	102	-61.8	1,571	971	600	-61.8
NUFACTURING	361	378	412	+14.1	3,691	3,450	3,410	- 7.6
Lumber, furn., etc.	104	93	83	-20.2	857	764	681	-20.5
Prim. & fab. metals	--	--	--	--	12	18	27	+125.0
Mach. (elec. & non-elec.)	67	97	140	+108.9	233	339	505	+116.7
Motor veh., & other trans.	--	--	--	--	--	--	--	--
Other durables	--	--	--	--	21	27	34	+61.9
Food	34	42	52	+52.9	365	449	552	+51.2
Textile & apparel	137	126	115	-15.3	1,981	1,579	1,270	-35.9
Print., pub., & chem. prod.	--	--	--	--	140	187	249	+77.8
Other non-dur. & not specified	19	20	21	+10.5	82	87	92	+12.2
NING	--	--	--	--	115	81	57	-50.4
NSTRUCTION	152	168	185	+21.7	714	788	870	+21.8
ANSPORTATION	33	34	37	+12.1	439	475	536	+22.1
Railroad	--	--	--	--	92	62	42	-54.3
Trucking	--	--	--	--	129	168	219	+69.8
Other trans.	16	16	16	00.0	44	45	46	+ 4.5
MMUNICATION & ILITIES	17	18	21	+23.5	174	200	229	+31.6
MMERCE	284	322	365	+28.5	2,176	2,550	3,010	+38.3
Wholesale	24	27	30	+25.0	210	236	266	+26.7
All retail	224	251	281	+25.4	1,430	1,603	1,797	+25.7
Fin., ins., & real estate	--	--	--	--	294	413	580	+97.3
Business & repair service	36	44	54	+50.0	242	298	367	+51.6
RSONAL SERVICES	186	209	235	+26.3	2,078	2,288	2,532	+21.8
Priv. h'hold	99	119	142	+43.4	833	997	1,193	+43.2
Other pers. serv. entertainment & recreation	87	90	93	+ 6.9	1,245	1,291	1,339	+ 7.5
OFESSIONAL	298	444	669	+124.5	1,680	2,528	3,831	+128.0
All education	111	181	296	+166.7	540	882	1,440	+166.7
Med., hospital, & related	99	151	230	+132.3	776	1,182	1,800	+131.9
Pub. adm.	88	112	143	+62.5	364	464	591	+62.4
HER OR NOT VEN	138	158	181	+31.2	485	555	635	+30.9

urce: U. S. Bureau of Census, computed by N. C. Division of Community Planning.

TABLE 12 AGE OF PERSONS IN LABOR FORCE, 1960, MOORE COUNTY

	Number	Per Cent Distribution
MALE:		
14 to 17 years old	379	4.3
18 to 24 years old	1,237	14.2
25 to 34 years old	1,911	21.9
35 to 44 years old	2,090	23.9
45 to 64 years old	2,689	30.8
65 years old and over	419	4.9
TOTAL	8,725	100.0
FEMALE:		
14 to 17 years old	117	2.4
18 to 24 years old	581	11.9
25 to 34 years old	1,016	20.9
35 to 44 years old	1,246	25.6
45 to 64 years old	1,673	34.4
65 years old and over	232	4.8
TOTAL	4,865	100.0

Source: N. C. Division of Community Planning, based on U. S. Census of Population

Occupational Structure

Chart 7 shows almost half of the males and approximately 63 per cent of the females in the Carthage labor force are in the unskilled group. This stresses the point of the need for both vocational and educational training for the town. However, the picture is not as bleak as it looks, for approximately 15 per cent of the males and about 21 per cent of the females are also in the professional, managerial and proprietary group and the sales and clerical group. This in a way reflects Carthage as a small commercial and trade center for the surrounding area. For both males and females, semi-skilled and farm workers make up the rest of the remaining employment.

Moore County group structure is similar to Carthage, except percentages are greater in most groups. Percentages are smaller

OCCUPATION BY SEX

1960

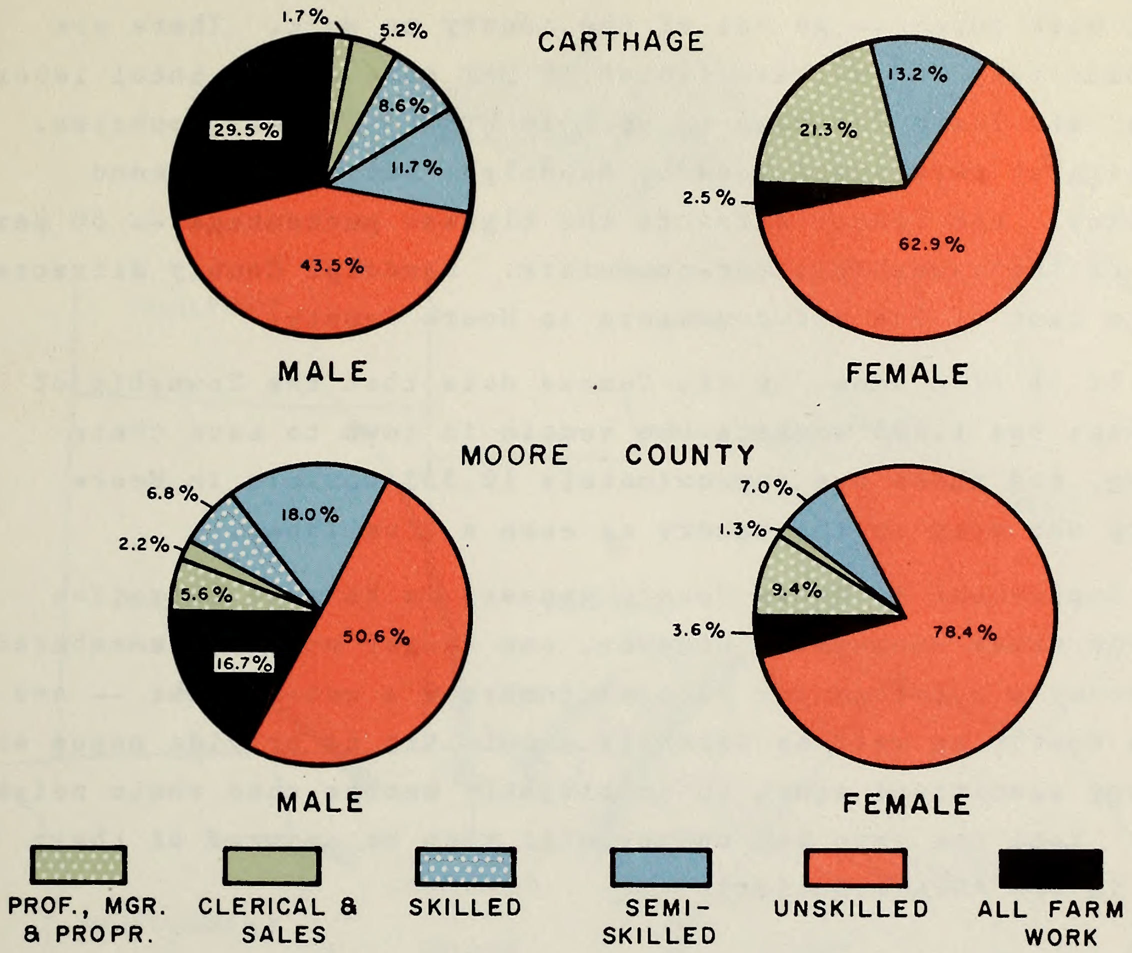


CHART-7

for males in the professional, managerial and proprietary group, and the clerical and sales group. The largest area of employment is in the unskilled and semi-skilled group. The same applies to females for the County, but to a greater degree.

If high classes of industry are to be attracted to the area the leaders of the community must think in terms of reducing the proportion of unskilled labor and of raising the proportion of skilled and semi-skilled workers. This can be done through educational and vocational training and should be stressed for the future.

Worker Mobility

Map 2 illustrates commuting patterns for Moore County and shows that 1,422 workers -- approximately 11 per cent of the total work force -- go out of the county to work. There are approximately 167 workers (about 10 per cent of the total labor force) who leave Carthage to work in other towns or counties. The biggest percentage goes to Randolph, Lee, and Richmond Counties. Lee County attracts the highest percentage -- 50 per cent of the township's out-commuters. Randolph County attracted 28 per cent of the out-commuters in Moore County.

It is also shown by the Census data that the Township of Carthage has 1,385 workers who remain in town to earn their living, and there are approximately 10,353 workers in Moore County who stay in the county to earn a livelihood.

Employment in Moore County appears to be more lucrative than in other counties. However, one danger must be remembered -- today's out-commuter becomes tomorrow's out-migrant -- and Moore County as well as Carthage should try to provide wages and working conditions equal to or slightly better than their neighbors. Both the town and county will then be assured of their role in the "Great Society."

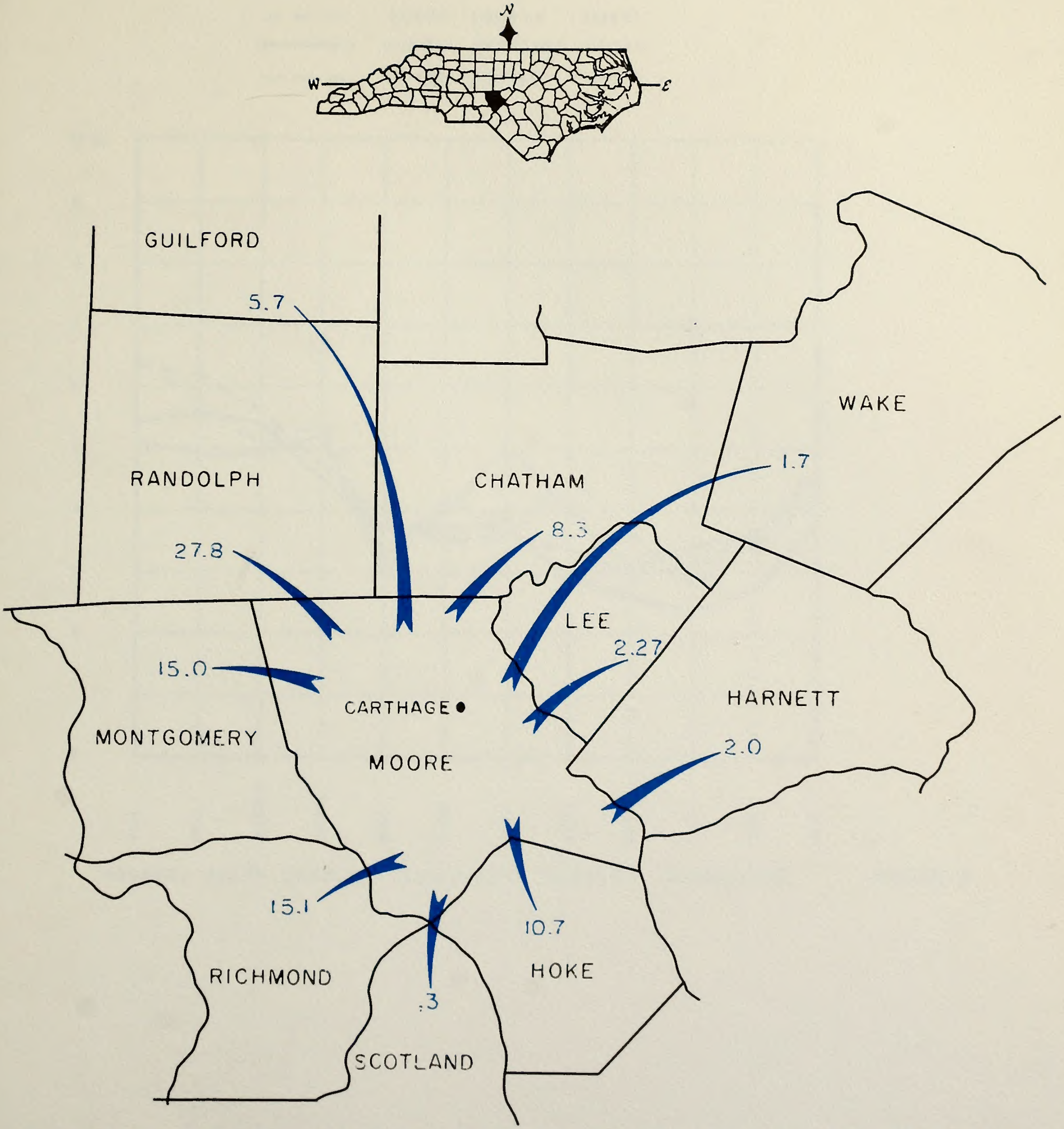
Unemployment

Unemployment in Moore County in 1963 was very high and erratic, ranging from 5.1 per cent in January to 3.0 per cent in May, and back to a high of 5.0 per cent in July, and finally again back to 3.0 per cent in September and a gradual climb to 4.4 per cent in December. By January of 1964 unemployment was a high 6.4 per cent, which made it 1.0 per cent higher than the total for the United States. An overall comparison of unemployment is shown on Graph 2 for Moore County and certain selected areas.

OUT-COMMUTING PATTERNS OF WORKERS

MOORE COUNTY, NORTH CAROLINA

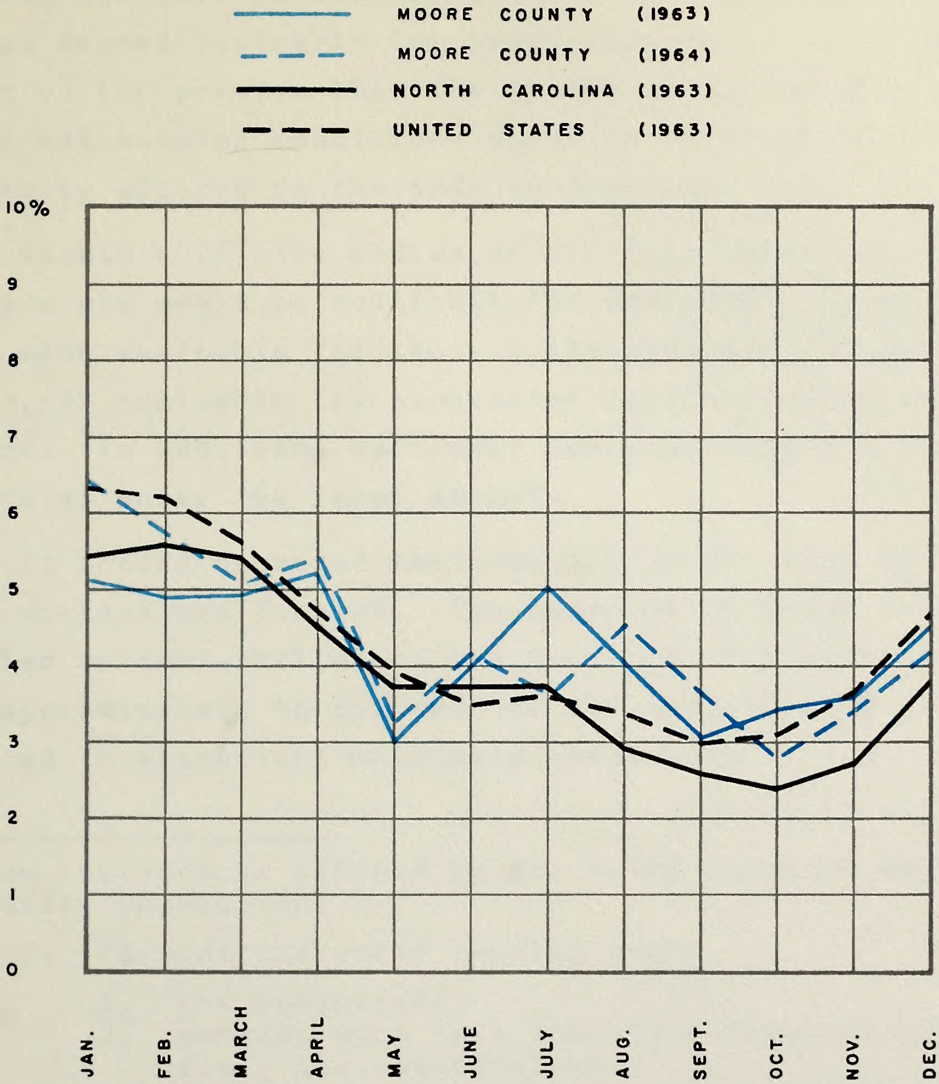
ARROWS SHOW PERCENT OF OUT-COMMUTING WORKERS
EMPLOYED IN OTHER COUNTIES


N
W
E
GUILFORD
5.7
RANDOLPH
CHATHAM
WAKE
1.7
27.8
8.3
LEE
2.27
15.0
CARTHAGE
MONTGOMERY
MOORE
HARNETT
2.0
15.1
10.7
RICHMOND
HOKE
.3
SCOTLAND

Out of the total workers in Moore County, 1,422, or approximately 11 per cent, commute outside the county to work. Approximately 28 per cent work in Randolph County, 23 per cent in Lee County, 15 per cent in Montgomery County, and 11 per cent in Harnett County.

MAP-2

MONTHLY UNEMPLOYMENT RATIOS FOR



SOURCE: NORTH CAROLINA EMPLOYMENT SECURITY COMMISSION

GRAPH-2

Worker Availability

Table 13 provides an estimate of "production worker availability"[*] in a 20-mile commuting radius of Carthage. Included are persons who have production job skills and persons under 45 years of age deemed trainable for production jobs. This estimate is based on the premise that new or expanding industry will offer wages and working conditions equal to or slightly better than are presently offered in the area in question.

Within a 20-mile radius of Carthage there are almost 4,500 workers who would be available for employment if suitable jobs were made available for them -- 160 skilled, 835 semi-skilled, and 3,495 trainable for production jobs demanding skilled development. In addition, each year approximately 370 high school graduates enter the labor market.

It should be noted that exactly 50 per cent of these available workers are females. The majority of these are either skilled or semi-skilled in the textiles or hosiery industries, and approximately 46 per cent of the semi-skilled workers are trained in electrical machinery operations.

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[*] Those included as defined by the North Carolina Employment Security Commission.

I. Persons currently seeking work:

1. the unemployed;
2. persons with less than full-time employment, i.e., the underemployed;
3. individuals holding jobs which do not utilize their highest skills;
4. certain others, such as school dropouts, returnees from military service, and so forth.

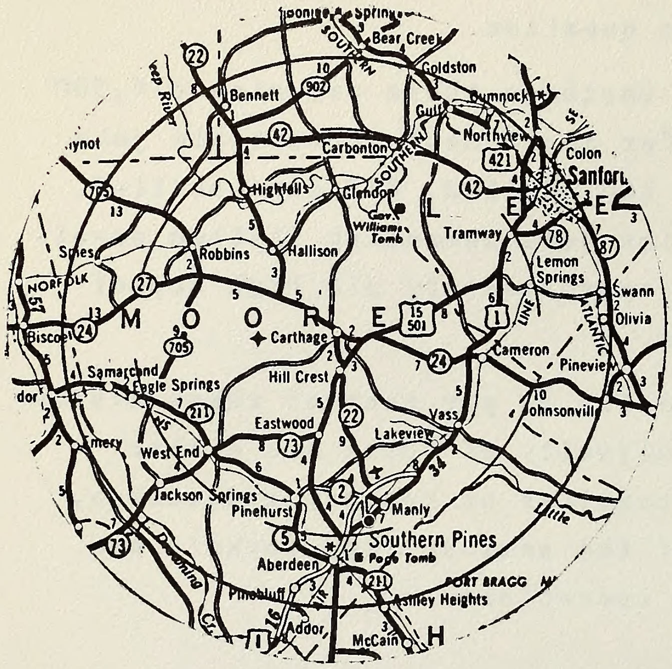
II. Potential job seekers:

1. housewives who would join the labor force if more suitable work or better job opportunities were made available;
2. workers who are now commuting to jobs in other areas but who prefer local employment;
3. young people who expect to find jobs upon completion of their schooling;
4. agricultural workers who are interested in industrial jobs.

EMPLOYMENT SECURITY COMMISSION OF NORTH CAROLINA
ESTIMATE OF RESIDENT PRODUCTION WORKER AVAILABILITY

Area: Carthage N. C., January, 19 65

IMPORTANT	
ESTIMATED NUMBER AND CHARACTERISTICS OF PERSONS WITHIN THIS AREA WHO POSSESS PRODUCTION JOB SKILLS AND PERSONS UNDER 45 YEARS OF AGE DEEMED TRAINABLE FOR PRODUCTION JOBS.	ESTIMATE BASED ON THE PREMISE THAT NEW OR EXPANDING INDUSTRY WILL AFFORD WAGES AND WORKING CONDITIONS EQUAL TO OR SLIGHTLY BETTER THAN PRESENT INDUSTRIAL PATTERN OF THE AREA.


Bear Creek
Goldston
Bennett
Gulf
Cumnock
Northview
Colon
Sanford
Carbonton
Highfalls
Glendon
Tramway
Lemon Springs
Swann
Olivia
Robbins
Hallison
MOORE
Carthage
Cameron
Pineview
Johnsonville
Biscoe
Samarcand
Eagle Springs
Hill Crest
Eastwood
Vass
Lakeview
West End
Jackson Springs
Pinehurst
Manly
Southern Pines
Aberdeen
Pinebluff
Ashley Heights
Addor
McCain
FORT BRAGG
SOUTHERN
NORFOLK
ATLANTIC

RECRUITING AREA: 20 MILE RADIUS (ROAD MILES) FOR SITES IN OR NEAR

Carthage

POPULATION OF ENCIRCLED AREA:

66,215
(1960 CENSUS)

EACH YEAR APPROXIMATELY 370 HIGH SCHOOL GRADUATES ENTER THE LABOR MARKET IN THE ENCIRCLED AREA.

Within This Area The Estimated Number of Production Type Workers Available Is --

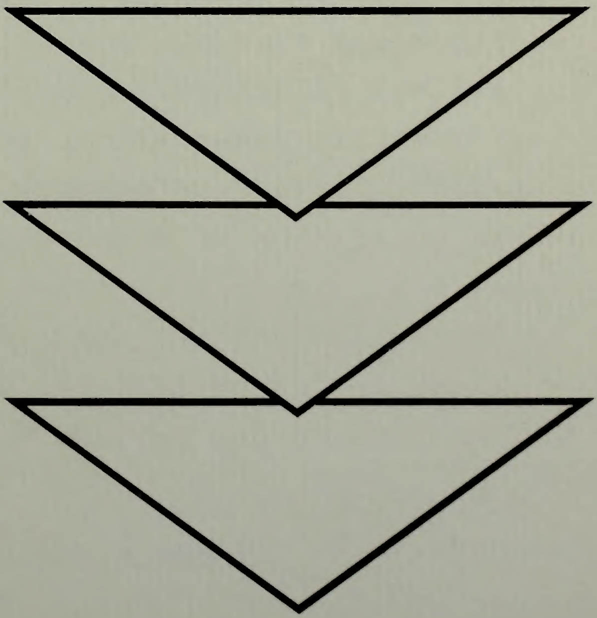
CHARACTERISTICS	TOTAL	WHITE		OTHER	
		MALE	FEMALE	MALE	FEMALE
TOTAL ESTIMATE OF AVAILABLE PRODUCTION TYPE WORKERS	4,490	1,385	1,400	845	860
SKILLED	160	125	30	5	–
SEMISKILLED	835	305	500	15	15
TRAINABLE FOR PRODUCTION JOBS DEMANDING SKILL DEVELOPMENT	3,495	955	870	825	845

EXPERIENCED WORKERS, BY INDUSTRY		
INDUSTRY	SKILLED	SEMI-SKILLED
Textiles incl. Hosiery	60	280
Electrical Machinery	–	140
Furniture	–	125
Apparel	–	60

ESTIMATE OF RECRUITABLE WORKERS IN AREA		
MILES	MALE	FEMALE
0 TO 15	1,100	1,120
15 TO 20	1,130	1,140
20 TO 25		

TABLE -13

TRENDS IN RETAIL TRADE, SERVICES, WHOLESALING, AND AGRICULTURE



TRENDS IN RETAIL TRADE, SERVICES, WHOLESALING AND AGRICULTURE

TRADE AREA

Carthage serves as a small commercial and trade center for a good portion of the County as well as being the County Seat. Therefore, the town owes its very existence to these types of activities. The main purpose of this section is to identify and delineate this area and summarize the general trends within the area. Two methods of identification are employed. First, Reilly's law of retail gravitation which states that "two cities attract retail trade from any intermediate city or town in the vicinity of the breaking point approximately in direct proportion to the population of the two cities and in inverse proportion to the square of the distance from these two cities to the intermediate town." Second, a spot survey was made of various local merchants to determine the trade area based on the area from which they receive patronage. The first step is shown on Map 3 with a solid line, and the second step is shown by a broken line. Although there is a slight difference between the two areas, Reilly's law does encompass the majority of the western portion of the County. However, in no place does the solid line go out of the County, but it does come close to the southern border line of Chatham County.

The population and economic picture within this area of the County is not too bright. Out-migration is noted here, population is slightly declining, the primary sources of basic employment -- agriculture, textiles, and wood related industries -- are decreasing nationally in employment, and the income level is low. In summary, the market area upon which a major portion of Carthage's economic existence is dependent is presently in a state of decline. Therefore, the Town of Carthage and Moore County must find someway to provide employment to help absorb these displaced farm and manufacturing workers as well as the new high school entrants into the labor force.

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*William J. Reilly, The Law of Retail Gravitation, (G. P. Putnam Sons, 1931), p 9.

Retail Trade Trends

Table 14 shows that retail trade in Moore County (number of establishments, sales, payrolls, and number of employees) increased. The United States Bureau of the Census shows Moore County's 496 retail establishments had $39.4 million in sales in 1963 and increased approximately 27 per cent from 1958.

TABLE 14 RETAIL SALES FOR MOORE COUNTY, 1954, 1958, 1963

Moore County	1954	1958	Per Cent Change	1963	Per Cent Change
Number of Establishments	410	392	- 4.4	496	+26.5
Sales ($000)	$25,213	$30,362	+20.4	$39,390	+29.7
Number of Employees	1,013	1,117	+ 8.3	1,258	+12.6

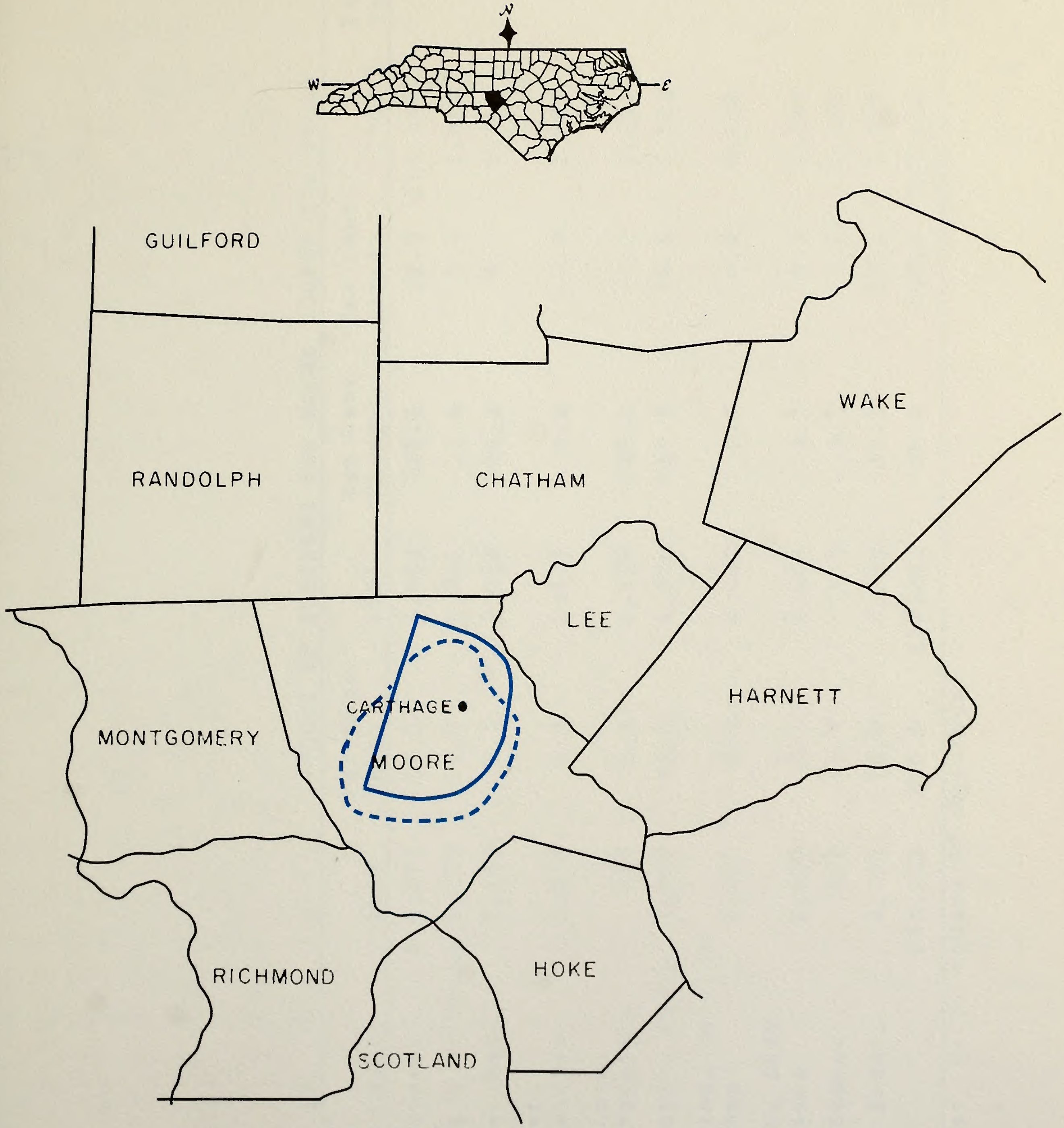
Source: U. S. Census of Business

Retail trade in the County meant jobs (exclusive of proprietors) for 1,258 men and women -- an increase over 1958 by 4.3 per cent and a yearly payroll of $3.4 million.

In volume of business the County's food stores had sales of $10.9 million, an increase of 57 per cent over 1958. In other retail business the County's eating and drinking places had sales of $2.0 million, and gasoline service stations had sales of $2 million. Automobile dealers and related retail trade establishments had sales of $6.8 million; general merchandise group stores had sales of $2.6 million; and lumber, building materials, hardware and farm equipment dealers had sales of $2.6 million. Only general merchandising and other retail stores show a loss in percentage from 1958 to 1963. Food stores had the highest percentage of the total money spent in retailing. The automotive group and other retail stores followed.

RETAIL TRADE AREA

CARTHAGE, NORTH CAROLINA


N
W
E
GUILFORD
RANDOLPH
CHATHAM
WAKE
LEE
HARNETT
MONTGOMERY
CARTHAGE
MOORE
RICHMOND
HOKE
SCOTLAND

LEGEND

TRADE AREA AS DETERMINED BY

——— REILLY'S LAW

------ PERSONAL INTERVIEW

MAP-3

TABLE 15 VOLUME OF BUSINESS FOR MOORE COUNTY (In $000)

Moore County	1954	Per Cent Total	1958	Per Cent Change	Per Cent Total	1963	Per Cent Total	Per Cent Change
Food Stores	$ 5,872	23.3	$ 6,962	+18.6	22.9	$10,944	27.7	+57.2
Eating & Drinking	1,175	4.7	1,041	-11.4	3.4	1,968	5.0	+89.0
General Mdse.	2,149	8.5	2,754	+28.2	9.1	2,583	6.6	- 6.2
Apparel, Accessories	1,298	5.1	1,178	- 9.2	3.9	1,722	4.4	+46.2
Furniture, Home Furnish.	827	3.3	1,129	+36.5	3.7	1,281	3.3	+13.5
Automotive Group	3,617	14.3	4,280	+18.3	14.1	6,782	17.2	+58.5
Gasoline, Service Stations	2,417	9.5	2,425	+ 0.3	8.0	4,188	10.6	+72.7
Lumber, Bldg. Materials	2,134	8.5	2,085	- 2.3	6.9	2,625	6.7	+25.9
Drug Stores	938	3.7	875	- 6.7	2.9	1,588	4.0	+81.5
Other Retail	4,786	19.0	7,633	+59.5	25.1	5,709	14.5	-25.2
TOTAL	$25,213	100.0	$30,362	+20.4	100.0	$39,390	100.0	+29.7

Source: U. S. Census of Business

The State as a whole reported 43,857 retail establishments with sales of $4975.3 million, up 30 per cent from 1958.

WHOLESALE AND SERVICE TRADES

The number of establishments, receipts, payroll and number of employees all increased from 1954 to 1958. From 1958 to 1963 all increased except receipts which fell off 0.7 per cent. Selected service trade increased in all categories from 1954 to 1963. However, moderate growth had occurred except in payroll and recipts. These two were both high for the County.

TABLE 16 WHOLESALE TRADE FOR MOORE COUNTY

	1954	1958	Per Cent Change	1963	Per Cent Change
Number of establishments	26	31	+19.2	34	+ 9.7
Receipts ($000)	13,190	13,453	+ 2.0	13,358	- 0.7
Payroll ($000)	410	485	+18.3	509	+ 4.9
Number of employees	147	159	+ 8.2	201	+26.4
Selected Service Trade					
Number of establishments	148	200	+35.1	227	+13.5
Receipts ($000)	3,993	5,267	+31.9	7,144	+35.6
Payroll ($000)	1,048	1,371	+30.8	1,930	+40.8
Number of employees	779	823	+ 5.6	879	+ 6.8

Source: U. S. Census of Business

BANKING

There are eight banking communities in Moore County. The Carolina Bank has offices in Pinehurst, Carthage, Aberdeen, Vass and West End. The Citizens Bank and Trust Company services Southern Pines with two offices. The Southern National Bank is also located in Southern Pines, Bank deposits and assets have doubled in Moore County in twelve years. There are several Building and Loan Associations located strategically in Moore County.

	1950	1960	1962
Bank deposits	$8,312,962	$13,342,589	$15,913,649
Bank assets	9,050,878	15,161,984	18,142,854

AGRICULTURAL TRENDS

Moore County is primarily an agricultural county with some emphasis on tobacco; however, because of its great pine forests and the potential of their resin and timber, a turpentine boom started at the turn of the Twentieth Century. Overlapping this era came a lumber boom, and cutting of virgin pines until about 1910. However, today agriculture and lumbering rank second only to textiles as the County's chief industries. In terms of employment and income, agriculture is still very important to the economy of the County, but it is rapidly decreasing. (Table 17.)

TABLE 17 AGRICULTURAL TRENDS - MOORE COUNTY

	1954	1958	Per Cent Change
Number of Farms	2,328	1,934	-20.4
Proportion of land in farms	46.9	39.2	-19.6
Average size of farm (in acres)	86.7	91.4	+ 5.1
All crops sold	$4,322,392	$4,273,638	- 1.1
All livestock and livestock products sold	$ 175,326	$ 38,515	-111.5
Poultry and poultry products sold	$2,457,178	$6,179,517	+60.2
White operators	1,991	1,681	-18.4
Non-white operators	337	253	-33.2
Forest products sold	$ 163,434	$ 275,259	+40.6

Source: U. S. Census of Business

There has been a decline in six of the ten farm categories. The number of farms, the proportion of land in farms, dairy products sold, white operators and non-white operators, all are rapidly decreasing. The remaining farms are larger, more mechanized, more efficient, and more productive. The need to provide employment for displaced farm workers is one of the most significant problems now facing Moore County and failure to do so adequately in the past is probably the major factor responsible for the out-migration experienced by the County. This is very important to Carthage because the town can hardly afford to have these people move away. Its economic existence depends on them.

It is interesting to note that forest products which were sold in 1958 were over 111,825 of the 1954 figure. This is a gain of approximately 40 per cent. North Carolina Department of Conservation, Forestry Division, states approximately 75 per cent of the total land area of Moore County is devoted to forestry. This is approximately 338,226 acres in forests. No doubt, as agriculture decreases forestry will take up the slack in the economy. This has been the trend in the last six years, during which time 15,344,400 pine tree seedlings were planted on 15,334 acres of County land. The acres in forestry have increased each year as the citizens have realized its value.

SUMMARY AND CONCLUSIONS

SUMMARY AND CONCLUSIONS

SUMMARY

With a very favorable geographic location in the center of the State of North Carolina, Carthage serves as the County Seat of Moore County and as a trade center for the surrounding area. The growth of Carthage depends upon the growth of the entire county. Unfortunately, an analysis of the population and economic characteristics does not show a bright picture. However, much can be done to improve the county as well as the town of Carthage. It is hoped that this report will help to stimulate such improvements. The following is a summary of the major problems facing the Town of Carthage and Moore County:

1. Out-migration is very pronounced.
2. Population is declining in Carthage and projections based on past trends indicate further declines in the future.
3. Out-commuting to work in other counties is not too high; however, this trend is likely to increase.
4. There is a heavy dependence upon industries which are rapidly decreasing in employment nationally.
5. Lack of manufacturing diversification and stability.
6. Moore County housing, education, and income levels are quite low in comparison to the State and Nation -- particularly for non-whites.

Some of the strengths of Carthage and Moore County population and economic structure are:

1. Located almost in the geographic center of the State of North Carolina. Equidistant (about 80 miles) from the three largest cities in North Carolina -- Charlotte, Greensboro and Raleigh. Moore County lies in what is popularly known as the "Middle Ground" -- that is, midway between the Piedmont and the Coastal Plain.

2. Upon its completion in 1965, the Community College to be built near Southern Pines will have a significant impact in generating both population and economic growth. Many out-of-county students will make purchases of gas, food, books, and clothing in the County.
3. There is a sizable labor force within a 20-mile radius of Carthage readily available and easily trainable for production-type work.
4. The citizens of Carthage have an optimistic community spirit, and a willingness and desire to identify problems and work diligently toward their solution.
5. Moore County is known for its recreational attractions all over the world. It is famous for its golf courses as well as for its horse farms. The 2,000-acre proposed Boy Scout camp is eight miles from Carthage.
6. The favorable climate of the area is one of the biggest influences for becoming a resort or retirement area. Both the County and Carthage should publicize this as much as possible and cater to this type of business.

CONCLUSIONS

Carthage should be vitally interested in the growth and development of the entire County since it is the patronage from this area upon which the town's welfare depends. The County needs to create new sources of employment to absorb the displaced farm workers, the new entrants into the labor force as well as the underemployed. Failure to do so will result in further population declines, loss of income and therefore valuable purchasing power. If the area is to prosper and grow, employment must be made available to keep people at home.

In pursuance of this goal, efforts should be made to attract industry which --

-- would diversify and stabilize the economic base;
-- would create more employment opportunities for male workers and non-white workers;
-- offer wages and working conditions comparable to those in surrounding urban areas so as to reduce out-commuting and out-migration.

Probably the most important single factor in determining income and standards of living is education. The employment opportunities which are expected to expand the most, offer the best wages, and provide much-needed diversification will be in the fields which require at least a high school education. According to the Employment Security Commission, only about one-half of the whites and a little more than one-quarter of the non-whites registered for factory work have obtained this level. Hence, it can be assumed that large improvements in educational offerings must be made -- particularly in vocational and technical schools.

One of the biggest gains in Moore County is tourism and recreation for the communities. It is suggested that Carthage promote these activities to their fullest potential -- even to the extent of constructing and developing new recreational facilities. Pinehurst and Southern Pines are two examples of what can result.

In addition, it is suggested that the town look into the possibility of other planning programs, such as an annexation study, an analysis of the central business district, or a feasibility study for public housing and/or urban renewal.

It should be noted that steps have already been undertaken to rectify many of the problems presently facing Carthage and Moore County. Employment opportunity for whites and non-whites are expanding, many new industrial jobs have been created, and wages are going up.

A new source of water has been acquired and bids have been let for a sewage plant. An active planning program to tie all these things together has been started. But probably the most important thing is the community's enthusiastic attitude to better their town and to make it a more enjoyable place to live. This attitude cannot be seen only in Carthage, but also throughout the County. With this drive, opportunities are excellent.

PHYSICAL ASPECTS OF CARTHAGE

CHAPTER III

PHYSICAL ASPECTS OF CARTHAGE, NORTH CAROLINA

HISTORY

Carthage is the County Seat of Moore County and is the oldest surviving town in Moore County. The Town of Carthage was formerly called Faganville for Richardson Fagan in whose home the court was originally held. The town was settled in 1786 and incorporated in 1796. It is the trading center of the surrounding clay country which contains textile, hosiery, and lumber plants.

The modern Moore County Courthouse dominates the central area of the town from its landscaped settling. On the lawn a marker honors a man who once worked there as a tailor, Andrew Johnson, who later became the President of the United States. West of the Courthouse a marker honors James McConnell who fought in World War I with the French Flying Corps (1917). The Memorial Hospital also bears his name.

The area surrounding Carthage is full of historical sites. The grave of Benjamin Williams, a member of the Provincial Congress, the U. S. Congress, both Houses of the General Assembly, twice Governor of North Carolina (1799-1802, 1807-1808), and a member of the original Board of Trustees of the University of North Carolina, is 11 miles east of Carthage, near Governor's Creek. Also within the area is the Phillip Alaton House, privately-owned and known as "the House in the Horseshoe", a pre-revolutionary, two-story framed house, with brick end chimneys and a front porch. Bullet holes in the weather boarding are evidences of the White-Tory skirmishes of 1780-1781.

Source: The North Carolina Guide, Edited by Blackwell P. Robinson, Chapel Hill, the University of North Carolina Press.

PHYSICAL SETTING

Moore County is situated in the south-central part of North Carolina, about 40 miles south of Greensboro and 25 miles northwest of Fayetteville. The County is irregular in outline and has an area of 644 square miles, or 412,160 acres.* The general surface features are a level plateau which has been dissected by the valleys of numerous stream courses.

ACCESSIBILITY

Carthage is located on the following highways: N. C. 22, 24, and 27; U. S. highways 15 and 501. North Carolina highways 24 and 27 handle east-west traffic and N. C. 22 handles north-south traffic along with U. S. 15 and 501. There are no railroad lines into Carthage; however, Norfolk and Southern and the Seaboard Airline Railroads serve the County. In fact, the entire eastern portion of the County is crossed by the main lines of the Seaboard Airline Railroad, affording fast freight and passenger service to all points north and south.

A commercial airfield is located centrally between Aberdeen, Southern Pines, Pinehurst, Carthage and Robbins. Piedmont Airlines operating throughout North Carolina with daily service to Raleigh, Louisville, Cincinnati, Washington, and connections to other points, offers service during the period from October through May. The nearest year-round commercial airports with major airline facilities and schedules are located in Charlotte (about 95 miles), Raleigh (about 75 miles), and Fayetteville (about 45 miles).

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*U. S. Department of Agriculture, Soil Survey of Moore County, North Carolina, 1922.

TOPOGRAPHY

The resultant topography ranges from level or gently undulating to rolling, and steep, the more level areas being confined to the crests of the interstream ridges, while the rolling to steep areas occur around the heads of streams and on the slopes and approaches to the drainageways. The smoother surface features are in the southern half of the county, in the vicinity of Niagara, Pinehurst, Pinebluff, Roseland, West End, and Samarcand. The more rolling topography occurs in the northern half of the county, along the slopes of Big Governors, Crawley, McLendons, Richland, Buffalo, and Bear Creeks, and in the Deep River country.

A ridge which runs directly east to west across the county, passing through the Town of Carthage, divides the county into two physiographic sections. North of this ridge the general slope is northeastward, and south of it the slope is southeastward. Pinehurst, in the southern part of the county, has an elevation of 650 feet above sea level. Carthage is said to be the highest point in the county.

The county is divided into three drainage basins, northern, central and southern. Drainage is good in all areas, with the exception of a few swampy areas and bottom lands.*

The regional setting of Carthage is shown on Map 4.

CLIMATE

The air is mild and dry and has been compared to that of Arizona or New Mexico, but without the deserts. Carthage has a mean annual temperature of 71.5° Farenheit. The winter mean is 43.7° Farenheit, and the summer mean is 77.8° Farenheit. When rain falls it is quickly absorbed with no aftermath of mud or humidity.

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*U. S. Department of Agriculture, Soil Survey of Moore County, North Carolina, 1922.

The average annual rainfall is 47.55 inches and the average for the summer is 18.16 inches. June, July, August, and September are the wettest months; these normally have precipitation amounting from four to six inches. The dryest months are October and November when normals range from two to three inches. The other six months of the year average between three and four inches. Winter air is dry and bracing, and outdoor activity can continue practically every month out of the year. The ground seldom freezes; snow falls infrequently and rarely sticks. Snowfall is normally from 0.2 to 2.3 inches in the winter months. Sleet and hail are very uncommon.*

SOILS AND LAND CAPABILITIES

The soils of Moore County are prevailingly light in color, ranging from light-gray or yellowish-gray to red soils. These soils are dominantly low in organic matter with an absence of free carbonates. In the soil-forming processes, lime and other carbonates have not accumulated, and there are no calcareous soils in the county. The soils are strongly acid in character and the heavier soils, particularly those in the northern end of the county, respond to liberal applications of lime. This is especially true of the Iredell, Conowingo, Wadesboro, Alamance, and Georgeville soils. The absence of free carbonates in the soils of this area is due in a large measure to the climatic conditions, e.g., the heavy rainfall, which averages more than 47 inches annually. In this warm temperate climate, with heavy rainfall and good drainage, it would be impossible for carbonates to accumulate to any extent.

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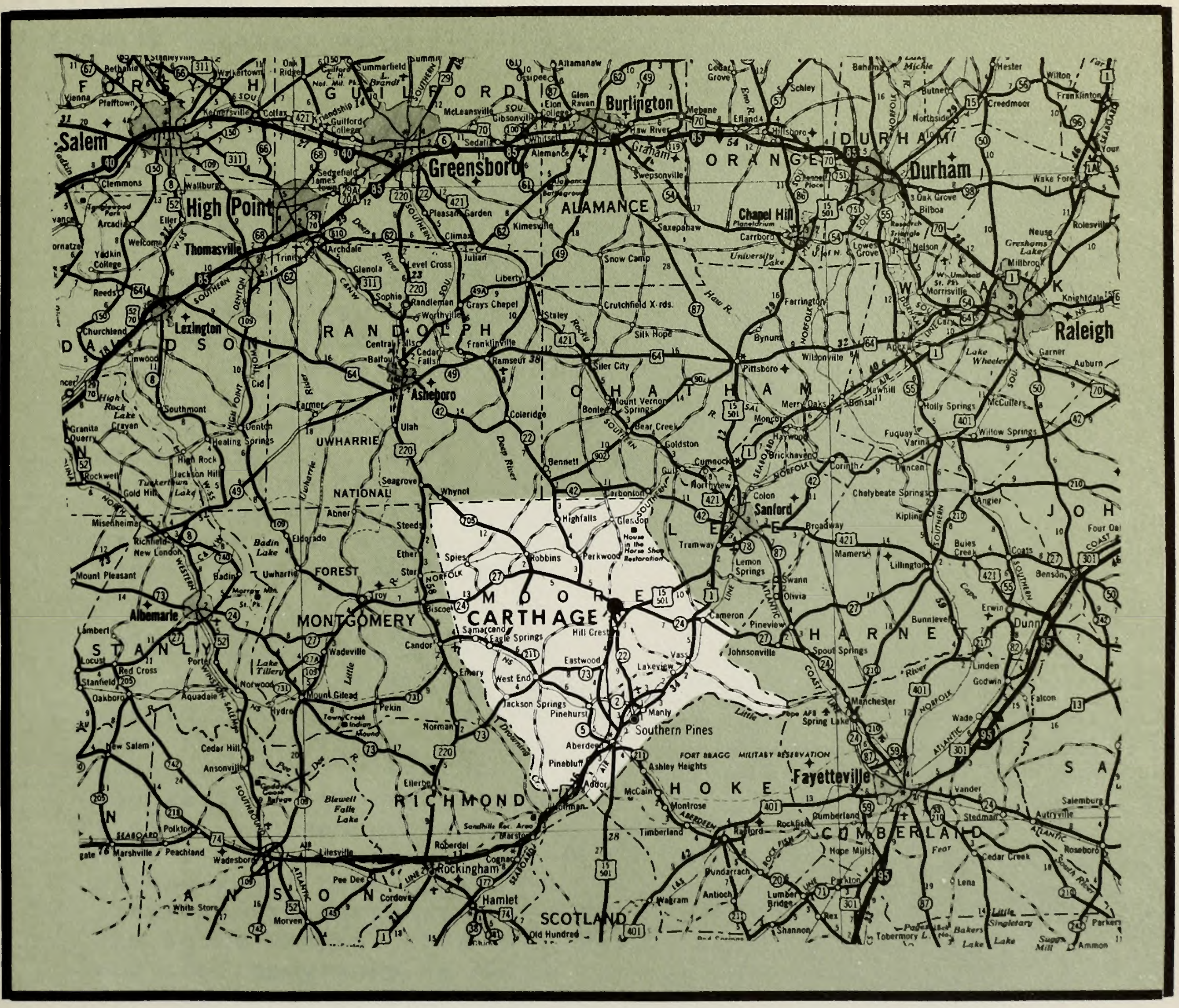
*Data taken from the U. S. Weather Bureau at Southern Pines, N. C.

REGIONAL SETTING



MAP-4

Moore County is characterized by some 23 different types of soils, several of which are predominant in Carthage. These are: Hoffman sandy loam; Hoffman gravelly sandy loam; Wadesboro silt loam; Wadesboro gravelly silt loam (mixed phase); Norfolk sand; Bradley gravelly sandy loam; and Bradley sandy loam. These soils and their location around Carthage can be seen on Map 5.

Hoffman Sandy Loam

The surface soil of the Hoffman sandy loam is a gray loamy sand or sandy loam, which at one to two inches passes into a pale-yellow sandy loam which extends to depths ranging from eight to twenty inches. The subsoil is usually a dull yellow or brownish-yellow sandy clay, which passes immediately into a mottled yellow and red, or pink, yellow and gray hard, sticky, sandy clay to a depth of three feet or more. This particular type of soil is found in all parts of the southern half of the county, particularly along the slopes of streams, in areas varying from a few feet to a mile in width. There are a few level to gently rolling areas on some interstream ridges, but the type is mainly rolling to hilly and broken. The drainage is good to excessive; therefore, the permeability of this soil for septic tanks is quite good.

Hoffman Gravelly Sandy Loam

The surface soil of the Hoffman gravelly sandy loam for one to two inches is a gray to light gray, medium loamy sand to sandy loam, passing into a pale-yellow sandy loam which extends to depths of 10 to 20 inches. Scattered over the surface and intermixed with the soil are large quantities of rounded quartz gravel and pebbles, giving the soil mass a distinct gravelly texture. This type of soil has a rather small development in the county. The largest areas occur around Carthage and near the heads of Little River and Nicks Creeks. The soil occurs on ridges and slopes, and the topography is level to rolling. Both surface drainage and underdrainage are good.

Wadesboro Silt Loam

The surface of the Wadesboro silt loam consists of a gray to yellowish-gray mellow silt loam to very fine sandy loam, six to ten inches deep. The sub-soil is a dark-red or brick-red, friable silty clay to a depth of three feet or more. Some smooth sandstone gravel and broken pieces of sandstone are found on the surface in places. The subsoil occasionally grades into the decayed sandstone and shale at about 30 inches in depth. The topography is gently rolling, becoming rolling or strongly rolling as streams are approached for this type of soil occupies interstream country and slopes leading to drainage ways. The drainage, both surface and subsurface, is good except on some of the steeper slopes, where it is excessive.

Wadesboro Gravelly Silt Loam

The surface soil varies from a gray to light-red silt loam ranging in depth from about six to ten inches. Scattered over the surface and mixed with the soil are quantities of small broken sandstone fragments. The subsoil of the red surface area is a brick-red to yellowish-red, friable silty clay, while subsoil of the light-gray surface is yellow to reddish-yellow, friable silty clay. The subsoil usually extends to a depth of 30 or 36 inches. This soil under normal conditions is poor for septic tank purposes for the underlying surface is very tight and sticky.

Norfolk Sand

This soil appears throughout the county, and is one of the most important types of soil because approximately 20 per cent of it is under cultivation. The Norfolk sand consists of gray to yellow-gray, medium loose sand, five to eight inches deep, underlain by a yellor or pale-yellow incoherent sand which extends to a depth of three feet or more. The soil occurs on broad interstream ridges and on the gentle slopes. The topography is almost level to gently rolling, becoming more rolling as the streams are approached. The surface and internal drainage are good to excessive.

Bradley Sandy Loam

The largest areas of this soil are found east of Carthage at the head of Little, Crawley, McIntosh, and Big Governors Creeks. The surface soil of the Bradley sandy loam consists of a gray to yellowish-gray, medium sandy loam or loamy sand ranging in depth from eight to 20 inches. The subsoil is a brick-red, friable silty clay which grades at 36 inches or more into the decomposed sandstone and shale of the triassic formation. The surface features vary from gently rolling to strongly rolling, owing to the rolling surface and the sandy texture of the soil, the natural drainage is excellent.

Bradley Gravelly Sandy Loam

The surface soil of the Bradley gravelly sandy loam is a gray to yellowish-gray medium loamy sand or sandy loam six to 18 inches in depth. The subsoil is a brick-red, friable silty clay to a depth of 36 inches; it usually passes into the purplish shale and mud stone of the triassic formation. The topography varies from gently rolling to strongly rolling, owing to the porous nature of the surface soil type has excellent drainage.

Map 5 illustrates the soils in Carthage and the one-mile fringe area. The following table gives the name and the actual and relative extent of each of the soil types mapped in Moore County.

TABLE 18 AREAS OF DIFFERENT SOILS

Soil	Acres	Per Cent
Norfolk Sand	114,240	
Sandhill Phase	2,368	28.3
Hoffman Sandy Loam	78,912	19.1
Georgeville Silt Loam	34,880	8.5
Wadesboro Silt Loam	28,416	6.9
Georgeville Gravelly Silt Loam	26,048	6.3
Alamance Silt Loam	21.760	5.3
Conowingo Gravelly Silt Loam	18,304	4.4
Granville Silt Loam	17,600	4.3
Congaree Silt Loam	10,304	2.5
Hoffman Gravelly Sandy Loam	8,576	2.1
Bradley Sandy Loam	6,976	1.7
Wadesboro Gravelly Silt Loam, Mixed Phase	6,784	1.6
Swamp	6,464	1.6
Conowingo Silt Loam	6,464	1.6
Bradley Gravelly Sandy Loam	6,272	1.5
Georgeville Stony Silt Loam	4,864	1.2
Kalmia Sandy Loam	3,712	0.9
Norfolk Loamy Sand	2,496	0.6
Norfolk Coarse Sand	2,176	0.5
Davidson Clay Loam	1,600	0.4
Norfolk Sandy Loam	1,344	0.3
Orangeburg Loamy Sand	832	0.2
Iredell Loam	768	0.2
	412,160	100.0

Source: The Bulletin of the North Carolina Dept. of Agriculture, 1919.

WATER SUPPLY

Water supply, next to industry, is probably the most important factor influencing a town's development. Therefore, the availability of water is crucial to any kind of development. Planning must be closely related to water in its four major aspects: supply, quality, quantity and distribution. There are two sources of water supply -- surface water and ground water, and two methods of distribution -- through public facilities and from individual wells. The present source of water for Carthage is from springs in the vicinity of the water plant, and two small ponds. One of these ponds is eight acres in size and the other is seven acres. The combined storage capacity of the two ponds is 45,000,000 gallons. The springs usually supply enough water for the town when rainfall is normal. If rainfall is not normal and if there are any prolonged dry spells during the summer, the town has to use a considerable amount of water from the two ponds.

From past experiences with water shortages, the Town Fathers realized the need for additional water supply. Consequently, they secured an option on a 100-acre lake site on Nicks Creek just southwest of Highway 22 about halfway between Carthage and Southern Pines. The town has purchased this site and plans are underway to construct a small diversion dam to direct water to the intake pumps. The pumps will be able to handle the needs of the town for some ten to fifteen years. With an eight-inch line from the lake site to the water plant, the town will be able to have 300 gallons of water per minute, or 432,000 gallons of raw water per day. The present maximum daily usage for the town is 250,000 gallons per day.*

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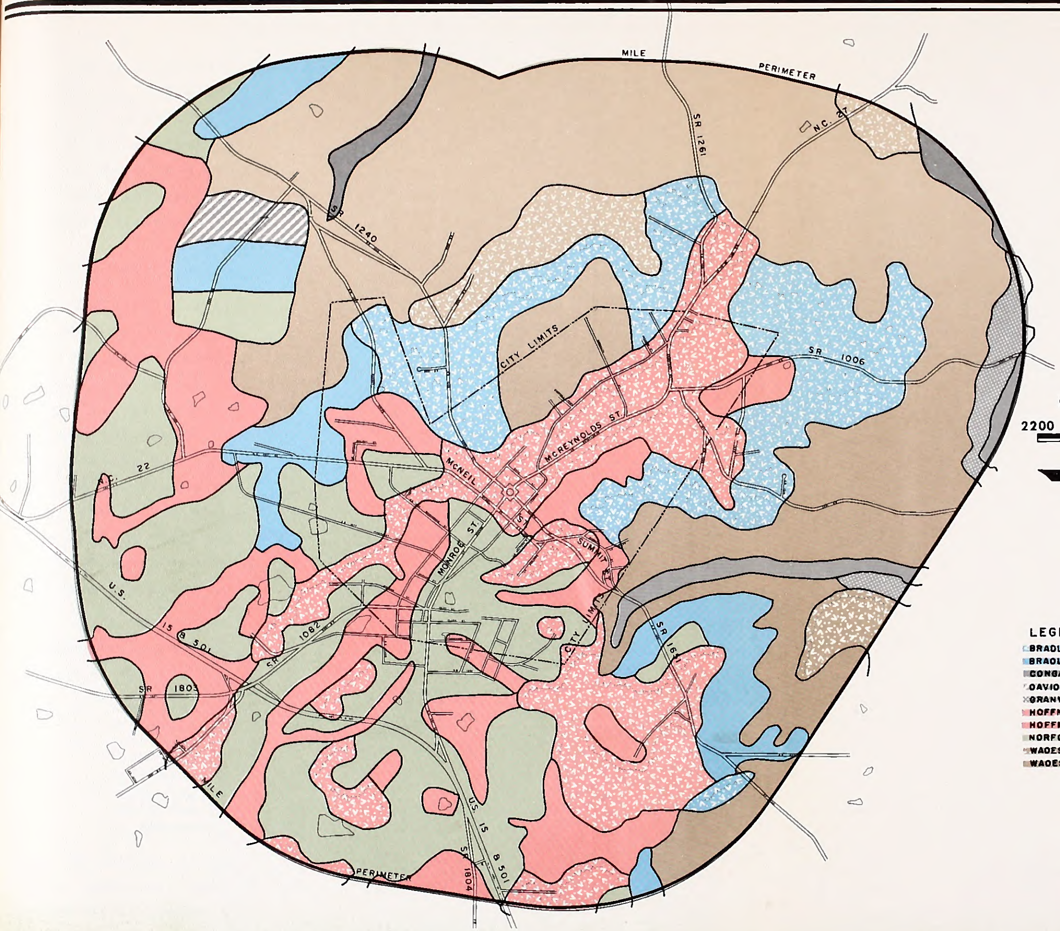
*Preliminary Report on Pollution Abatement Facilities and Water Improvements, Town of Carthage, Moore County, North Carolina, June, 1962. Moore Gardner and Associates, Inc., Consulting Engineers, Asheboro, North Carolina

Generalized
SOILS MAP


MILE
PERIMETER
SR 1261
N.C. 24
SR 1240
CITY LIMITS
SR 1006
McREYNOLDS ST.
McNEIL ST.
N.C. 22
U.S. 15 & 501
SR 1082
SR 1803
MONROE ST.
SUMMIT
CITY LIMITS
SR 1651
MILE
PERIMETER
SR 1804
U.S. 15 & 501

CARTHAGE
North Carolina

2200 0 2200
Scale In Feet

N

LEGEND

BRADLEY GRAVELLY SANDY LOAM
BRADLEY SANDY LOAM
CONGAREE SILT LOAM
DAVIDSON CLAY LOAM
GRANVILLE SILT LOAM
HOFFMAN GRAVELLY SANDY LOAM
HOFFMAN SANDY LOAM
NORFOLK SAND
WADESBORO GRAVELLY SILT LOAM
WADESBORO SILT LOAM

MAP-5

The storage capacity of finished water (water which has been treated and filtered) is 218,000 gallons. The average daily consumption is 165,000 gallons per day and average daily reserve is 53,000 gallons per day. The water supply and storage are adequate unless there is a prolonged dry spell. However, the standpipe and elevated tank both need some work on them to bring them up to adequate standards.

SANITARY SEWAGE DISPOSAL

The term "sanitary sewage disposal" is a broad term which is employed to denote the process for treating the sewage of a community and discharging it into a river, stream, or lake or into an ocean. The overall purposes of the treatment of sewage are to stabilize the sewage without causing odor or nuisance and without endangering health. However, since water supply is becoming an increasingly critical problem, pollution of a source of supply through the discharge of untreated or inadequately treated sewage is a concern for all communities. There are only certain methods of purifying water and these have their limitations. Therefore, it is necessary to reduce the pollution load on these streams by adequate treatment of sewage.

It is very important that all towns plan for the collection of sewage from all dwellings and non-residential structures on the site, and for its disposal by one of the following methods:

-- discharge to an existing public sewerage system;
-- treatment in a community disposal plant;
-- treatment in individual septic tanks with disposal by absorption field or leaching pit, except where population exceeds about one household per acre; depending on local conditions, cesspools and septic tanks are generally unsuitable and a sewer system is necessary.

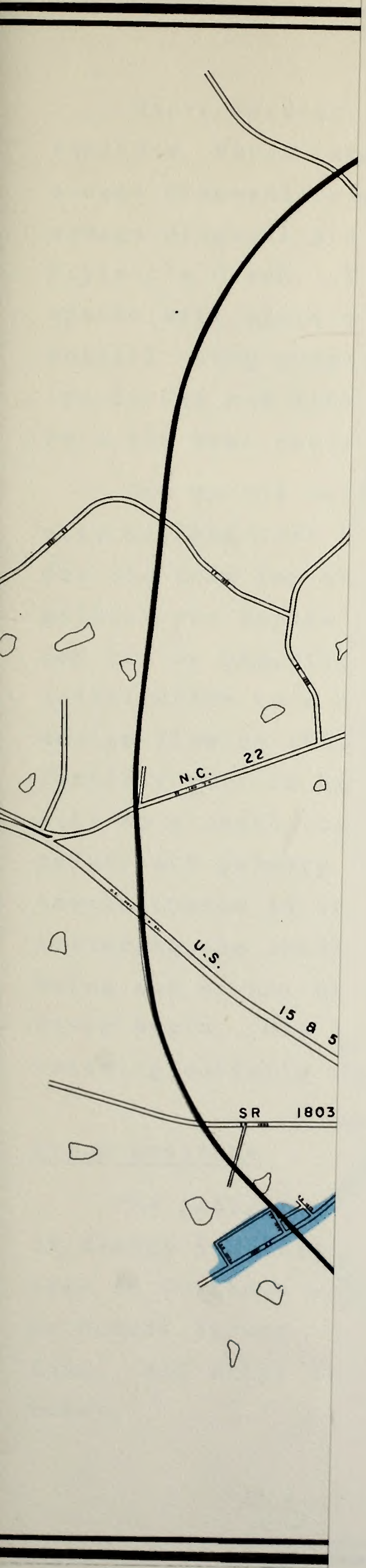
No attempt is made here to present technical standards to cover technical flaws in design of the collection system or other obstacles to proper flow, and failure to provide for manholes, cleanouts, etc. However, it is essential that they be checked by a qualified sanitary engineer before execution of any development or redevelopment plans.

Existing Sanitary Sewage Disposal System

A gravity flow sewage collection system presently serves approximately 65 per cent of the present population. However, the type of sewage disposal system in use is grossly inadequate in terms of pollution control. Town officials have recognized this problem as it has been pointed out by the North Carolina State Stream Sanitation Committee and the Pollution Control Section of the North Carolina State Board of Health. The town is adding greatly to the contamination of waters of the Cape Fear River Basin by disposal of raw sewage from the town into tributaries of Killets Creek and Little Creek with little treatment in the case of one outfall, and no treatment in the case of the other two. Map 6 shows water and sewerage coverage for the planning area.

Drainage Areas

Three drainage areas exist in the town -- the north, west and south sides of the town. The effluent on the south side goes through an old Imhoff tank and discharges into a ditch that has been fouled by sludge deposits and heavy green algae. This outfall area serves about 500 people. The outfall on the north discharges raw sludge into Little Creek and serves about 125 people. This practice has been a touchy subject for many years because of the odors which are produced in the area in the summer time and because the area is used for watering cattle. The west outfall discharges into an almost dry ditch, also causing extreme odors in the summer time, and serves about 100 people.


N.C. 22
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15 & 5
SR 1803

cleanouts, etc. However, it is essential that they be checked by a qualified sanitary engineer before execution of any development or redevelopment plans.

Existing Sanitary Sewage Disposal System

A gravity flow sewage collection system presently serves approximately 65 per cent of the present population. However, the type of sewage disposal system in use is grossly inadequate in terms of pollution control. Town officials have recognized this problem as it has been pointed out by the North Carolina State Stream Sanitation Committee and the Pollution Control Section of the North Carolina State Board of Health. The town is adding greatly to the contamination of waters of the Cape Fear River Basin by disposal of raw sewage from the town into tributaries of Killets Creek and Little Creek with little treatment in the case of one outfall, and no treatment in the case of the other two. Map 6 shows water and sewerage coverage for the planning area.

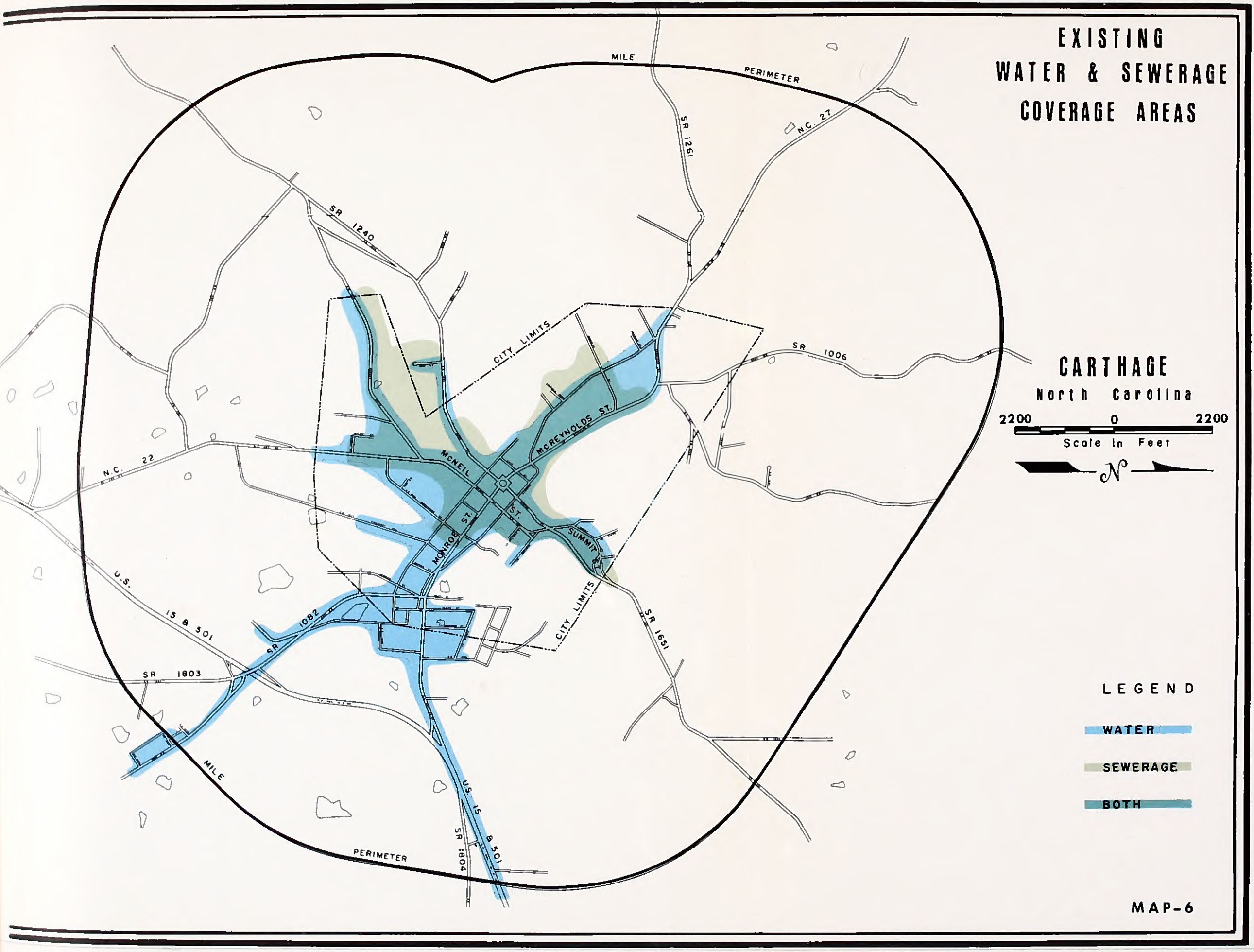
Drainage Areas

Three drainage areas exist in the town -- the north, west and south sides of the town. The effluent on the south side goes through an old Imhoff tank and discharges into a ditch that has been fouled by sludge deposits and heavy green algae. This outfall area serves about 500 people. The outfall on the north discharges raw sludge into Little Creek and serves about 125 people. This practice has been a touchy subject for many years because of the odors which are produced in the area in the summer time and because the area is used for watering cattle. The west outfall discharges into an almost dry ditch, also causing extreme odors in the summer time, and serves about 100 people.

EXISTING WATER & SEWERAGE COVERAGE AREAS

CARTHAGE

North Carolina


MILE
PERIMETER
SR 1261
N.C. 27
SR 1240
CITY LIMITS
SR 1006
MCREYNOLDS ST.
MCNEIL ST.
N.C. 22
MONROE ST.
SUMMIT
U.S. 15 & 501
SR 1082
CITY LIMITS
SR 1651
SR 1803
MILE
PERIMETER
U.S. 15 & 501
SR 1804
2200 0 2200
Scale In Feet
N
LEGEND
WATER
SEWERAGE
BOTH

MAP-6

Moore, Gardner and Associates, Inc., Consulting Engineers of Asheboro, North Carolina, have studied the existing sanitary sewage disposal system of Carthage and have recommended a new sewage didposal plant on the southwest side of Carthage near Killett's Creek. The site will consist of 36.5 acres, and the system will operate by gravity flow with sewage from the north outfall being pumped to the manhole at the intersection of Brooklyn Street and Highway 27, from whence it will flow by gravity into the west outfall and eventually to the new treatment plant.

Due to the smallness of Carthage, Moore, Gardner and Associates believe that a design population of 1,300 will be adequate for the town for the next fifteen to twenty years. Using 100 gallons per capita per day, a sewage flow of 130,000 gallons per day can be expected. To this figure should be added a calculated infiltration rate of 15 per cent, thereby bringing the total design flow to 149,500 gallons per day. The design for the new facility will be based on 150,000 gallons per day since the plant will be a waste stabilization lagoon type. This lagoon will receive both primary and secondary treatment of the effluent. This sewage system is to be built in the next year or two thereby relieving the inadequate sewer system and relieving the town from being one of the main sources of water pollution of Cape Fear River Basin. Map 7 shows the three major drainage areas and their existing outfalls in the Carthage planning area.

Storm Drainage

The collection and removal of storm water requires a system of drains in addition to proper grading of the site. The only area in Carthage with proper storm drainage is on N. C. Route 22, or McNeil Street. This area is located on the southeast side of town. All other areas have natural drainage ditches for runoff water.

Actually, the collection and disposal of surface runoff water are very important municipal services that should be provided to protect the town from flood damage. Storm drainage is determined by topography and storm sewers should be designed for gravity flow at gradients which will produce required velocity of flow. Storm water usually requires no treatment, thus can be discharged by means of outfall sewers into natural water courses. In designing a storm drainage system, there are many variables which must be considered. Some are: rainfall intensity, ground slope, character of ground cover and water shed. Runoff water will range between 70 to 75 per cent of the rainfall, depending on the spacing of houses, driveways, paved areas and grassed lands, and as high as 90 per cent in the central business district on paved streets. Most towns base designs for storm drainage for five to ten years in residential areas, and from 15 to 20 years storm in the business areas. Local records of rainfall, coupled with observations of damage resulting from storms provide a good estimate or basis for a decision.

An extensive storm sewer program, to take care of the existing development, should be undertaken. The proposed subdivision regulations will assure that any new subdivisions will be provided with storm sewers along with curbs, guttering and sidewalks.

N.C. 22
U.S.
15 & 5
SR 1803

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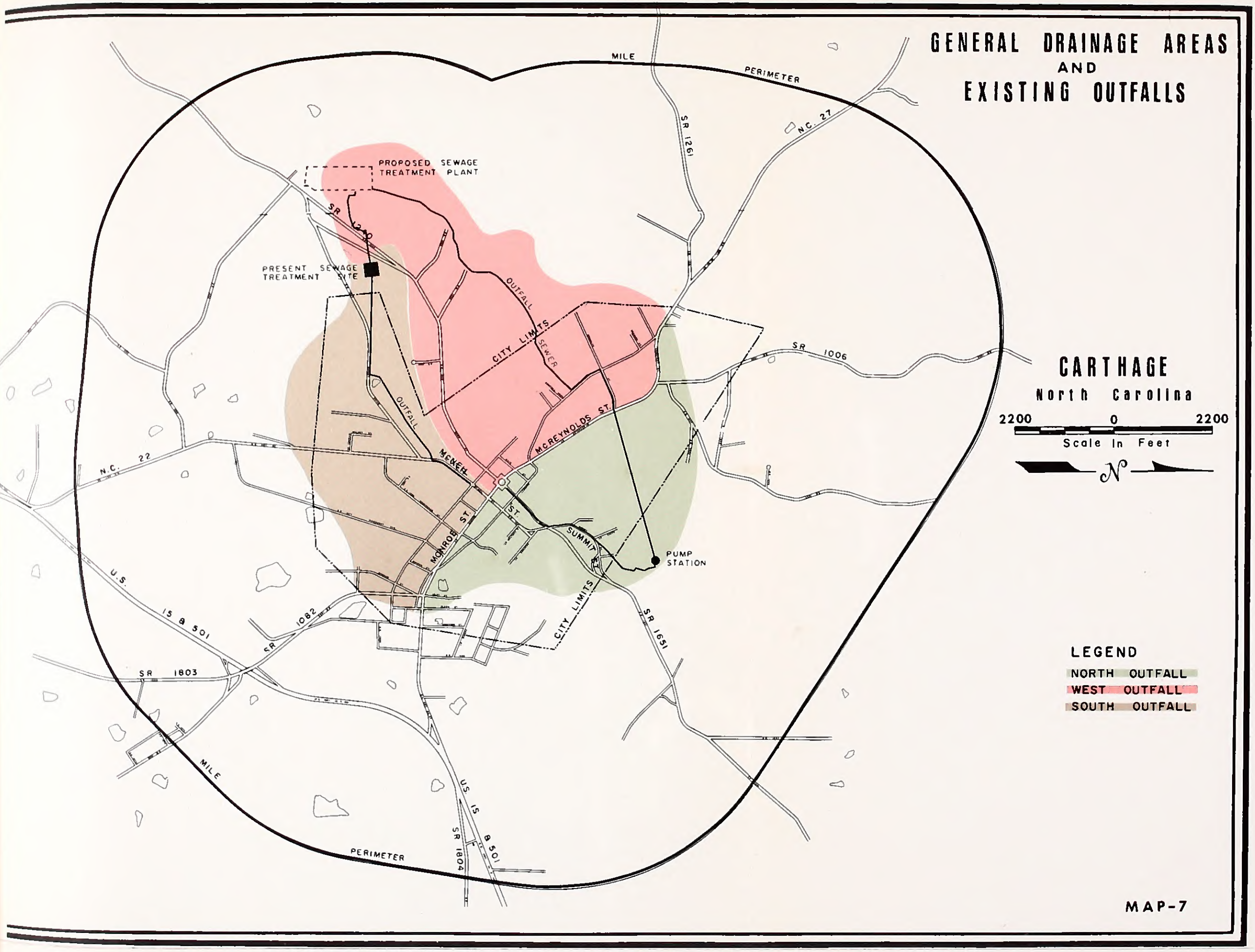
GENERAL DRAINAGE AREAS AND EXISTING OUTFALLS


MILE PERIMETER
N.C. 27
SR 1261
PROPOSED SEWAGE TREATMENT PLANT
SR 1240
PRESENT SEWAGE TREATMENT SITE
OUTFALL
CITY LIMITS
SEWER
SR 1006
OUTFALL
McKEH ST.
McREYNOLDS ST.
N.C. 22
MONROE ST.
ST.
SUMMIT ST.
PUMP STATION
CITY LIMITS
U.S. 15 & 501
SR 1082
SR 1651
SR 1803
MILE
PERIMETER
US 15 & 501
SR 1804
CARTHAGE
North Carolina
2200
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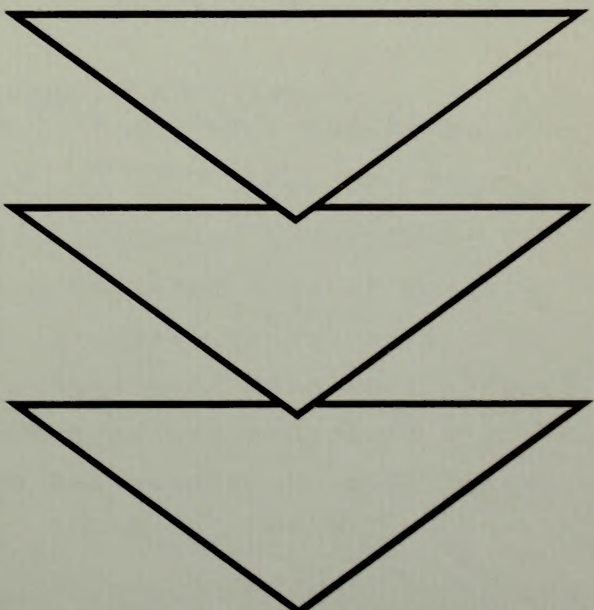
2200
Scale In Feet
N

LEGEND

- NORTH OUTFALL
- WEST OUTFALL
- SOUTH OUTFALL

MAP-7

LAND USE ANALYSIS



LAND USE ANALYSIS

Carthage was planned to be the County Seat, and as such, the County Courthouse was set off on a square by itself to be the dominant structure. It is situated on a hill as the focal point of the town. North Carolina Highways 22, 24 and 27 pass directly around the Courthouse. Although the central square on which the Courthouse sits was cut back to provide for more right-of-way for the main thoroughfare passing through town, it did not solve the problem but merely delayed it for a while. The only possible solution would be a bypass for all traffic, a bypass for truck traffic only, or widening the existing thoroughfare even if it means cutting the beautiful old trees which parallel the road.

Actually Carthage does not have many outstanding land use problems. Some examples, in addition to the one mentioned, are:

-- lack of adequate parking within the Central Business District;

-- poorly designed streets in certain areas;

-- strip commercial development paralleling N. C. 24 and N. C. 27;

-- substandard housing to a point which warrants clearance;

-- lack of adequate recreational facilities for the town's population;

-- lack of a zoning ordinance and subdivision regulations and other codes such as fire, building, and so forth.

A study of land uses is very helpful toward understanding why the town has developed as it has. Carthage was, at one time, a small booming manufacturing center for horse-drawn carriages. So popular and famous were these carriages that many were shipped abroad to foreign countries. The town grew and prospered with wealth from Tyson carriage shops, and the people who made their livelihood from this employment were able to build big, two-story framed houses, many of which are still standing. By the turn of the century, business fell off with the invention of the automobile and since then the town has been declining in growth and income.

The planning area takes in approximately 11 square miles of land. Approximately 1.76 square miles of land are within the corporate limits. Development patterns and problems will be discussed under the following classifications:

Transportation: streets, railroad and other (rights-of-way parking lots, substations, etc.).

Production: manufacturing and manufacturing services (lumber mills, garment manufacturing, textile mills, tobacco processing, etc.).

Business: retail trade (clothing stores, gift shops, jewelry stores, appliance stores, auto sales, hardware stores, gas stations, grocery stores, drug stores, furniture stores, etc.).

Services: Consumer - (restaurants, barber and beauty shops, laundromats, theaters, pool halls, post offices, etc.).

Professional - (municipal offices, banks, lawyers, doctors, dentists, etc.)

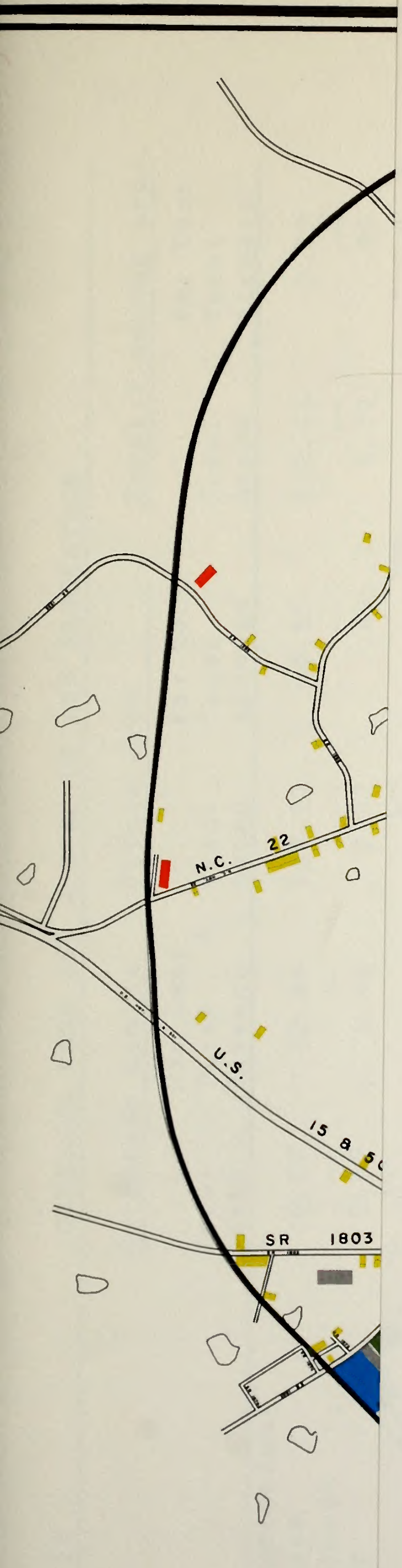
Business - (repair shops).

Social and Cultural: public and quasi-public (schools, kindergartens, churches, playgrounds, parks, cemeteries).

Residence: Single-family, multi-family, tourist homes, and house trailers.

Open Land: vacant and farm land which was considered to be in agricultural, pastoral, woodland, and water body use at the time of the survey.

Map 8 illustrates existing land use for Carthage the the fringe area.


N.C. 22
U.S.
15 & 5
SR 1803

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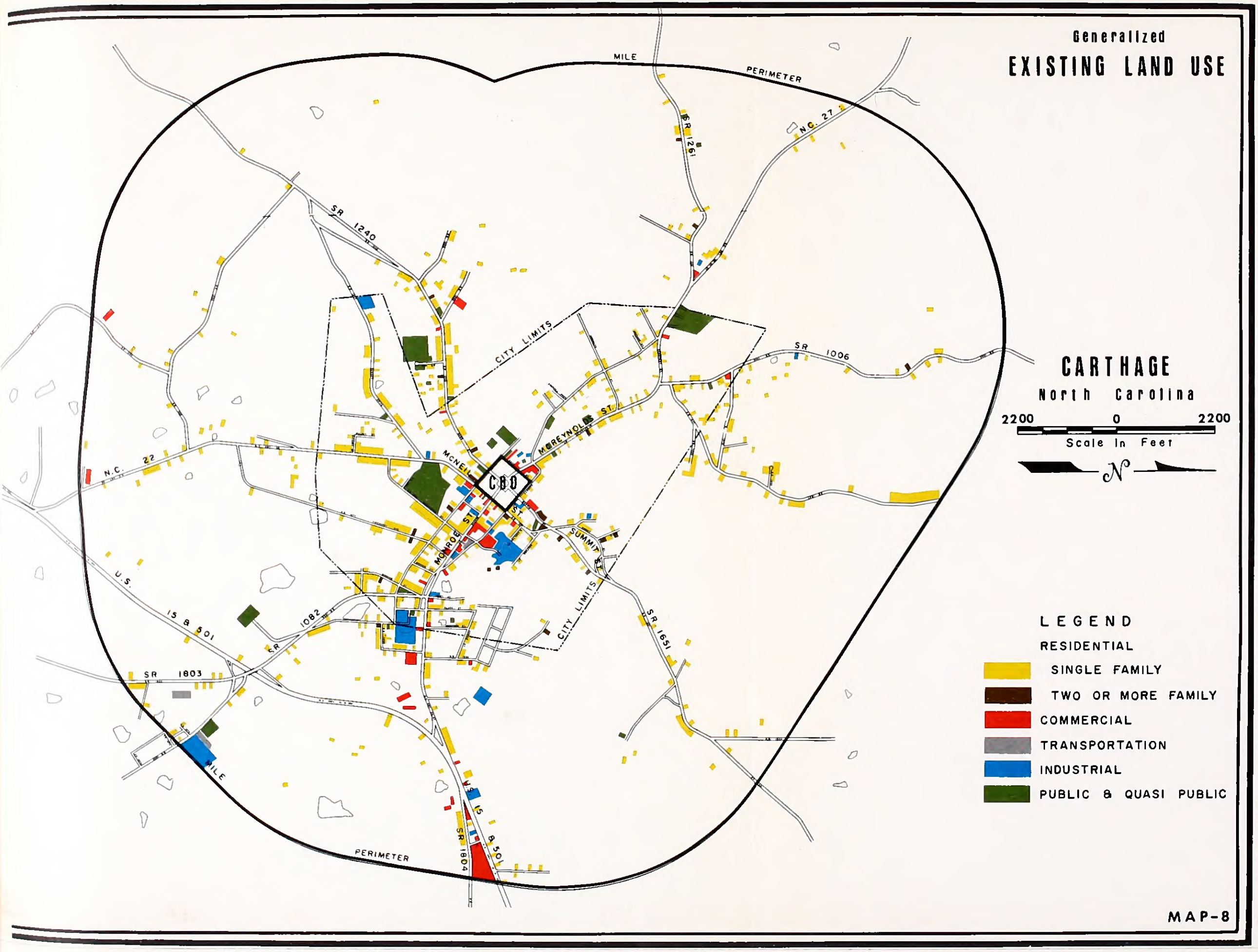
Generalized
EXISTING LAND USE
CARTHAGE
North Carolina
2200
0
2200
Scale In Feet
N
LEGEND
RESIDENTIAL
SINGLE FAMILY
TWO OR MORE FAMILY
COMMERCIAL
TRANSPORTATION
INDUSTRIAL
PUBLIC & QUASI PUBLIC
MILE PERIMETER
MILE
PERIMETER
CITY LIMITS
CBD
SR 1240
SR 1261
N.C. 27
SR 1006
N.C. 22
McNEILL ST.
McREYNOLDS ST.
MONROE ST.
SUMMIT ST.
U.S. 15 & 501
SR 1082
SR 1803
SR 1651
SR 1804
U.S. 15 & 501

MAP-8

TABLE 19 CARTHAGE LAND USE - ACREAGE AND PERCENTAGE

	Corporate Limits		Fringe Area		Total Planning Area	
	Total Acres	Per Cent Total Acreage	Total Acres	Per Cent Total Acreage	Total Acres	Per Cent Total Acreage
Transportation:						
Streets	78.20	32.64	154.23	48.35	232.43	3.38
Railroads	--	--	--	--	--	--
Other	3.45	1.44	2.83	.89	6.28	.09
Production:						
Manufacturing	3.23	1.35	4.33	1.36	7.56	.11
Manufacturing Serv.	11.75	4.90	12.52	3.93	24.27	.35
Business:						
Retail Trade	6.10	2.55	1.25	.39	7.35	.11
Wholesale Trade	5.14	2.15	5.73	1.80	10.87	.16
Services:						
Consumer	2.87	1.20	7.13	2.23	10.00	.15
Professional	1.43	.60	--	--	1.43	.02
Business	1.40	.58	.18	.05	1.58	.02
Social & Cultural:						
Public	18.33	7.65	14.03	4.40	32.86	.48
Quasi-Public	15.83	6.60	2.06	.65	17.89	.26
Residence:						
Single-Family	87.16	36.38	111.29	34.89	198.45	2.89
Multi-Family	3.78	1.58	1.54	.48	5.32	.08
Trailers	.92	.38	1.84	.58	2.76	.04
Total Developed	239.59	100.00	318.96	100.00	558.55	8.13
Open Land:						
Vacant & Farmed	885.34		5,424.58		6,309.92	
Total Acres	1,124.93		5,743.54		6,868.47	
Per Cent Total Acreage:						
Developed		21.30		5.55		
Vacant		78.70		94.45		91.87
		100.00		100.00		100.00

Source: N. C. Division of Community Planning

Transportation

	Acres within Corporate Limits	Acres within Fringe Area	Acres within Planning Area
Streets	78.20	154.23	232.43
Railroads	--	--	--
Other	3.45	2.83	6.28
Total	81.65	157.06	238.71

Streets, roads, parking areas and substations rank third in total acreages of all land uses in the planning area. Acres in transportation occupy 34 per cent of the land within the corporate limits and about 4 per cent of the acreage so used in the planning area. No land is taken up by railroads, although 50 years ago Carthage was served by a railroad. Only vacant and residential outrank transportation.

The main streets that radiate from the Courthouse Square are: Martin Street to the north; Dowd Street to the south; N. C. Routes 22, 24 and 27 to the east; McReynolds (N. C. Routes 22, 24 and 27) to the west. The Square is a traffic "bottle-neck." N.C. Routes 22, 24 and 27 carry large volumes of local traffic and trucks directly through the central business district and around the Courthouse and add to the confusion with perpendicular parking on either side of the road. Heavy trucks, with noise and fumes, not only detract from the business section but are also a hazard to pedestrians. The only remedy is a bypass around town for all through traffic -- or at least truck traffic. The North Carolina State Highway Commission has been asked to prepare a thoroughfare study for the town. This report will also include a sketch thoroughfare plan with recommendations.

Streets in the newer sections of town have been planned to get the maximum use for residential purposes. Carlton, Hickory and Walnut Streets have less acreage in streets than some of the older areas. The southeast side of town displays more logic in street layouts than does the northeast section.

Production

	Acres within Corporate Limits	Acres within Fringe Area	Acres within Planning Area
Manufacturing	3.23	4.33	7.56
Manufacturing Service	11.75	12.52	24.27
Total	14.98	16.85	31.83

The industrial acreage and pattern follows a narrow belt along N. C. Routes 22, 24, and 27. The majority of manufacturing uses consists of lumber yards and a junk yard. These uses occupy a little more than 1 per cent of all acreages in the corporate limits.

The largest single user of manufacturing acreage is the fabric mill located in the fringe area on the southeast side of town on Route 1802. Other larger users of land in the manufacturing category are a paving company (northeast of town), a lumber mill and storage yard combined (east of corporate limits). These uses occupy a little more than 1 per cent of all acreages in the fringe area. Manufacturing services for the fringe area consist mostly of storage places for farm equipment and poultry raising.

Land used for manufacturing purposes represents about 6 per cent of the developed land within the corporate limits; approximately 5 per cent of the developed land in the fringe area; and less than 1 per cent of the developed land in the total planning area.

Business

	Acres within Corporate Limits	Acres within Fringe Area	Acres within Planning Area
Retail Trade	6.10	1.25	7.35
Wholesale Trade	5.14	5.73	10.87
Total	11.24	6.98	18.22

The central business district (CBD) is obviously the center of commercial, financial and civic activity of the town and is the main shopping area for the county. It is delineated generally by Main Street on the north, Ray Street on the west, McNeil Street on the east and an unnamed street behind the Courthouse on the south. The acreage recorded represents retail floor space on the first floor. The upper floors were occupied mostly by insurance offices, lawyers, storage or vacant when the survey was made. Retail and wholesale business uses occupy about 4 per cent of the total developed land in town.

Three gasoline stations and a used car lot are located in the CBD. These uses are not what normally can be expected in a downtown shopping area. They require large amounts of land where traffic is less congested and are intended to serve the automotive public rather than the shopper. Added to this is the fact that the pavements of the service stations go directly to the highway, cars are parked too close to moving traffic with hazardous conditions constant, and there is no buffering to separate a non-compatible use from the retail trade area.

Some of the less appealing sights along N. C. Routes 22, 24 and 27 are:

-- too many gasoline stations in the central business district;

-- a vacant theater badly in need of repair;

-- too many parked cars crammed around the Court House Square and around existing gasoline stations;

-- a used car lot, large and ill-kept;

-- the tallest building in the CBD, beautifully designed but in need of repair. Mortar is falling out and bricks are loose. The wooden trimming on the building needs repair or replacement.

-- The many vacant buildings within the CBD detract from the unity of the downtown area.

Strong points for the approach to the central business district are:

-- the very handsome County Court House, built of limestone in a design based on classical architecture;

-- the variety of trees which enhance the approach;

-- the very modern and new department store;

-- the row of one-story department stores directly past Martin Street, which have been renovated, and which add greatly to the visual interest;

-- a large fine red brick hotel with colonnaded porch and large grass areas.

Tobacco warehouses and sale barns are located in the planning area, two of which are close to the central business district on Monroe Street. Heavy traffic is generated along N. C. Routes 24 and 27 when the tobacco season reaches its peak. No paving, parking and unloading space is provided, nor are curbs and storm drainage present. Trucks park and maneuver on or near the highways, creating dust, mud and confusion. Because of their relation to wholesale and retail sales, and for the convenience of buyers and sellers, warehouses were once located in the downtown area, close to a railroad or major highway. This trend is no longer true, as warehouses and manufacturers find it more convenient to avoid congested areas and locate on the outskirts of existing developments where there is plenty of level land on or near a major highway.

The total planning area has more land in wholesaling than in retailing uses. Map 9 gives a detailed breakdown of the CBD.

Services

	Acres within Corporate Limits	Acres within Fringe Area	Acres within Planning Area
Consumer	2.87	7.13	10.00
Professional	1.43	--	1.43
Business	1.40	.18	1.58
Total	5.70	7.31	13.01

Services are similar to business-retail uses except that they provide needs of an intangible nature to their clientele. The majority of the service uses in Carthage are located in the CBD or in close proximity to it. Services within the corporate limits account for approximately 2 per cent of the land. Included are barber and beauty shops, amusement places, restaurants, and dry cleaning shops. Professional services, which include lawyers, accountants, and governmental offices, but exclude medical offices, tend to locate in the central business district. The acreage of such uses within the corporate limits is less than 1 per cent of the total land. There are no professional uses in the fringe area. More acres are being used for consumer services in the fringe area than within the corporate limits because of the large amount of land (6 acres) used for the Fairgrounds between U. S. 501 and 15 and State Route 1804.

Social and Cultural

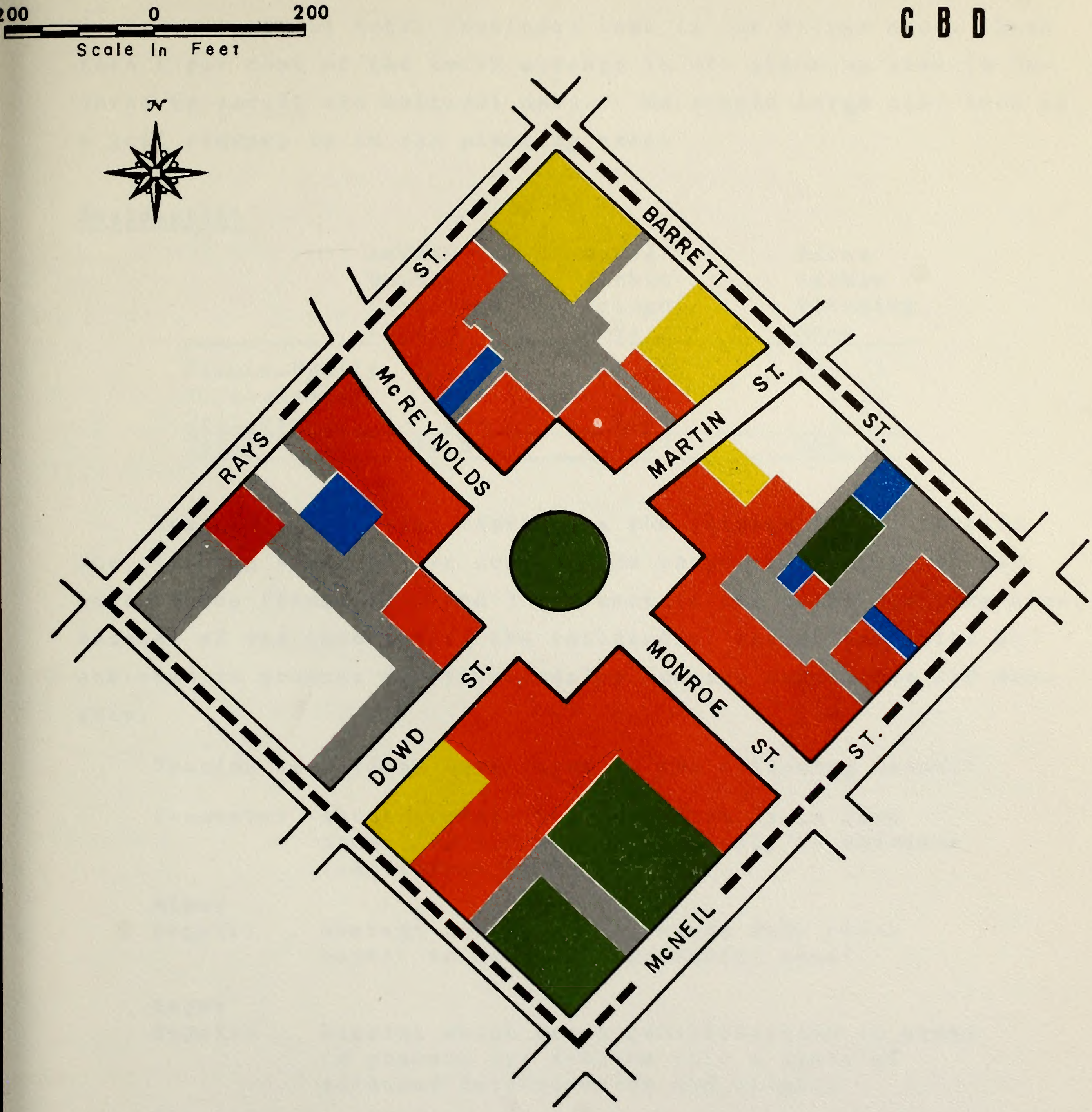
	Acres within Corporate Limits	Acres within Fringe Area	Acres within Planning Area
Public	18.23	14.03	32.36
Quasi-Public	15.83	2.06	18.09
Total	34.16	16.09	50.45

Public uses consist of government-owned property such as schools and public buildings; quasi-public uses and services are usually owned by private citizens or corporations, such as golf courses, fraternal organizations, churches, and cemeteries.

An unusual situation exists within the corporate limits, where land is most often limited and expensive. About 14 per cent of the acreage is occupied by two cemeteries, schools, churches, recreation facilities and governmental offices. The trend to have such uses in the fringe areas, where land is more plentiful and often less expensive is not in evidence. A school, recreation field and the Carthage water plant represent about

CARTHAGE
North Carolina

Generalized
EXISTING LAND USE
C B D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Scale In Feet
N
BARRETT ST.
RAYS ST.
McREYNOLDS
MARTIN ST.
MONROE ST.
DOWD ST.
McNEIL ST.

LEGEND

RESIDENTIAL

🟨 SINGLE FAMILY

🟥 COMMERCIAL

⬛ TRANSPORTATION

🟦 INDUSTRIAL

🟩 PUBLIC & QUASI PUBLIC

▬ ▬ ▬ C.B.D. BOUNDARIES

MAP-9

5 per cent of the total developed land in the fringe area. Less than 1 per cent of the total acreage in the planning area is devoted to social and cultural uses. No single large use, such as a golf course, is in the planning area.

Residential

	Acres within Corporate Limits	Acres within Fringe Area	Acres within Planning Area
Single-Family	87.15	111.29	198.45
Multi-Family	3.78	1.54	5.32
Trailers	.98	1.84	2.76
Total	91.86	114.67	206.53

Residential acreage represents the largest use of land in the planning area; 38 per cent in the corporate limits, 36 per cent in the fringe area and 3 per cent in the total planning area. Because of its importance, the residential use of land will be analyzed in greater detail, covering housing conditions and density.

Housing conditions were rated in the following manner:

Conserve:	above average housing which is in good condition and which needs only to maintain its present status.
Minor Repair:	average housing which needs only minor repair to make it a community asset.
Major Repair:	housing which needs rehabilitation in order to prevent its decline into a state of advanced deterioration and blight.
Dilapidated:	housing which had advanced beyond the point where rehabilitation was not economically feasible.

For clarification of the tables that follow, the two better classes of housing were combined as standard housing, and the other two were combined as substandard housing. (See Map 10.)

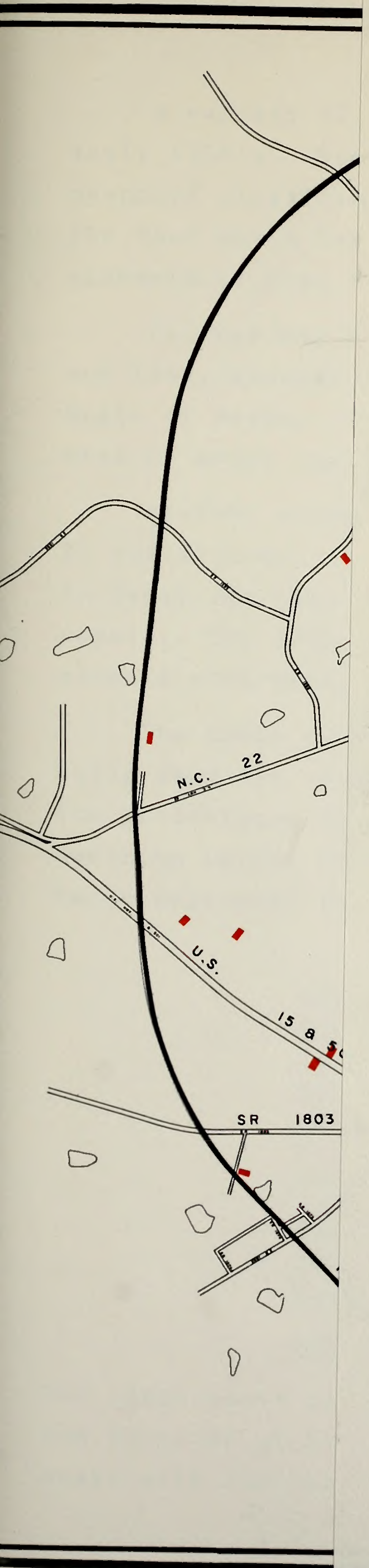
Some of the most outstanding examples of Old Victorian architecture are found in Moore County. Two-story frame houses with high steeples and large chimneys on large lots are typical of the late 1870's and early 1900's. In contrast, there are modern, one-story brick homes in the newly developed areas, and neglected or abandoned houses throughout the town and county.

Near the Carthage Elementary School the houses are relativly new. A detraction from the area is the lack of curbs and gutters or storm drainage. Only N. C. Route 22 has curbing and guttering, and the houses have sidewalks. Also noticeable in the area is the large number of vacant two-story frame houses in need of minor or major repairs to bring them up to a standard classification.

Houses along Dowd Street on the southwest side of town are one-story frame with tin or tar paper roofs. The drainage ways are ditches which are overgrown with weeds and trash. Farther down Dowd Street, just outside the corporate limits, the majority of houses in the non-white community are in need of major repair, or are dilapidated and unsafe. Local motivation and pride of ownership would greatly improve this section of town.

The majority of the houses along Sunset Drive, Walnut Street, Hickory Street, Rockingham Street, Bingham Street, and Isley Street are all about average for urban North Carolina; however, there are nine houses along Pinehurst Avenue in need of minor repairs.

The majority of the houses in the northern section of town are classified Conserve. Some houses on Martin Street, McNeill Street, Barrett Street and Carlton Street need repairs. Martin Street is a very narrow, winding road with no curbing and guttering. Here too, some personal motivation and pride in ownership would greatly improve those areas littered with old cars and trash.


N.C. 22
U.S.
15 & 5
SR 1803

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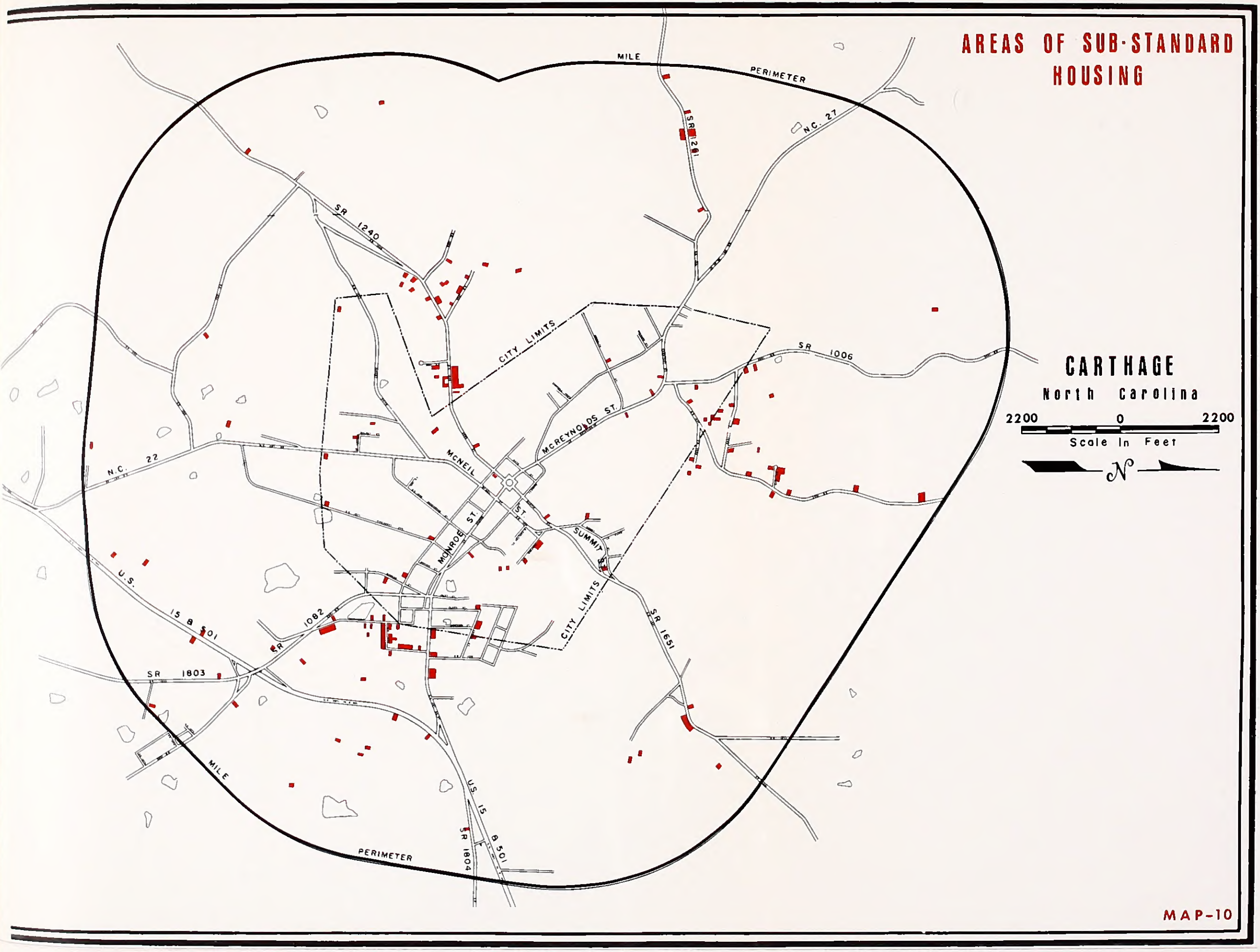


AREAS OF SUB-STANDARD HOUSING

CARTHAGE
North Carolina
2200 0 2200
Scale In Feet
N
MILE PERIMETER
MILE PERIMETER
CITY LIMITS
CITY LIMITS
N.C. 27
SR 1261
SR 1240
SR 1006
N.C. 22
MCNEIL ST.
MCREYNOLDS ST.
MONROE ST.
SUMMIT ST.
SR 1651
U.S. 15 & 501
SR 1082
SR 1803
SR 1804
U.S. 15 & 501

MAP-10

A variety of houses along McReynolds Street date back to the early 1900's. Some 17 of them need repair to bring them up to a standard classification. Curbs and gutters are nonexistent along the road which leads into the central business district. A short sidewalk is also too narrow.

Farther out McReynolds Street to State Routes 1006, 1647, and 1648, another pocket of poor housing exists within the triangle of roads. Both white and non-families live in houses in need of major repair.

Another pocket of substandard housing exists on N. C. Routes 24 and 27, near the lumber yard and junk yard. Non-whites live in dwellings that are greatly inadequate and in need of major repair. The area is low-lying, very swampy, and intermittently covered with water.

The total planning area has approximately 207 acres of land being used for residential purposes. Single-family units are the predominant type of housing. The area has a total of 712 dwelling units; 552 units are standard and 150 are substandard. Percentage-wise this is 78 and 22, respectively.

Per Cent of Substandard Dwellings in Selected Areas of North Carolina	
Rockingham	27.90
Mt. Airy	19.00
Pilot Mountain	15.63
Wilkesboro	15.74
Madison	33.02
Dobson	28.00
Elkin	3.94
Jamestown	22.00
CARTHAGE	22.00
AVERAGE	20.80

The comparative percentages were taken from reports compiled by the Division of Community Planning and added here to liken other areas with similar population.

TABLE 20 NUMBER OF STRUCTURES BY CLASSIFICATION FOR CARTHAGE

	Conserve		Minor Rep.		Major Rep.		Dilapidated		Total	
	White	Non-White	White	Non-White	White	Non-White	White	Non-White	White	Non-White
Within the Corporate Limits	217	12	105	14	17	7	9	1	348	34
Within the Fringe Area	98	23	56	27	40	52	17	16	211	119
Total Planning Area	315	35	161	41	57	59	26	18	559	153
Grand Total	350		202		116		44		712	

Source: N. C. Division of Community Planning

TABLE 21 DWELLING UNIT QUALITY FOR CARTHAGE

	White, Non-White Dwelling Units	Standard Dwelling Units		Substandard Dwelling Units	
	Number	Number	Per Cent	Number	Per Cent
Within the Corporate Limits	382	348	90.00	34	10.00
Within the Fringe Area	330	204	62.00	126	38.00
Total Planning Area	712	552	78.00	160	22.00

Source: N. C. Division of Community Planning

Structure Types

There are more single-family, two-family, and multi-family structures, and more home occupations, inside the corporate limits than there are in the fringe area. The fringe area has more trailers than does the area inside the town limits. Mixed uses are more noticeable in the fringe area than in the town. The town is fortunate in this respect, for such uses as home occupations and dwellings over stores detract from the community in general, deprive the residences of privacy, light and air, and have a tendency to blight an area.

STRUCTURE TYPES

	Single-Family	Two-Family	Multi-Fam., Apartments	Mixed Uses Home Occu.	Trailers
Within the Corporate Limits	350	13	6	8	5
Within the Fringe Area	312	4	2	3	9
Total Planning Area	662	17	8	11	14

Density of Housing

Table 22 shows that there are approximately 206.5 acres being used for residential purposes -- almost 92 acres within the corporate limits, and about 115 acres in the fringe area. Three-hundred and eighty-two dwelling units are within the corporate limits and 330 dwelling units are within the fringe area. The average density for the inside area is 4.1 housing units per acre of developed land; 2.9 housing units per acre of developed land in the fringe area; and 3.4 housing units per acre of developed land in the total planning area.

Trailers have the highest density per acre of developed land in the town and in the fringe area with 5.4 housing units per acre and 4.9 housing units per acre, respectively. Multi-family is next for both study areas, 5.0 and 3.9 respectively, The highest densities are found within the corporate limits.

The heaviest concentrations of densities are found in two pockets of poor housing. This is particularly true for the two non-white areas, both outside the corporate limits (southwest on Dowd Street) and N. C. Routes 24 and 27 (northeast). In some instances densities run as high as 4.1 in these areas. This is especially true for houses along Dowd Street.

TABLE 22 CARTHAGE HOUSING DENSITY BY TYPE OF UNIT

	Number of Units	Acreages	Average Number Housing Units per Acre
WITHIN THE CORPORATE LIMITS:			
Single-Family	358	87.16	4.1
Multi-Family	19	3.78	5.0
Trailers	5	.92	5.4
Total	382	91.86	4.1
WITHIN THE FRINGE AREA:			
Single-Family	315	111.29	2.8
Multi-Family	6	1.54	3.9
Trailers	9	1.84	4.9
Total	330	114.67	2.9
TOTAL OF PLANNING AREA	712	206.53	3.4

Source: N. C. Division of Community Planning

RECOMMENDATIONS

-- Curb and gutters for the areas within the corporate limits. (Subdivision Regulations will assure improvements in new developments.)

-- Initiate a street naming program and improve street signs.

-- Initiate a conservation program to upgrade general environments of the community. A "fix-up, clean'up" campaign should include drainage ditches, cluttered lots, and so forth.

Open or Vacant Land

	Acres within Corporate Limits	Acres within Fringe Area	Acres within Planning Area
Open, Vacant or Farm Land	885.34	5,424.58	6,309.92

The Town of Carthage is about one-fifth developed. Undeveloped land ranges from parcels that are undeveloped for physical reasons such as rugged topography, to prime parcels that are undeveloped either because of the lack of demand, or because owners do not desire to sell or develop at the present time.

Much of the vacant land around the central business district is very desirable and will allow for future growth and development.

The majority of the vacant land in the fringe area is either open land or farm land. This is fortunate, because it will be possible to plan wisely to meet the possible and potential needs of a progressive town.

LAND DEVELOPMENT PLAN

He has a right to criticize
who has a heart to help.

Abraham Lincoln

CHAPTER IV

LAND DEVELOPMENT PLAN

Land Development Plans are based largely on the data presented in prior land use surveys. Such surveys cover population, housing, economy, existing land use and other social characteristics. Normally, these sectors are used in deriving ratio formulas which establish a direct relationship between population and land usage. It would be useless to try to establish such a relationship in Carthage because the town is losing population and will continue to lose it if the present trend continues.* However, in this section of the report it will be assumed that Carthage will actually gain population. The reasons for this assumption are many -- some of which are --

-- Moore County is located on the southeastern edge of the heavily industrial Piedmont Crescent. Twelve counties, extending from Charlotte to Raleigh contain about one-third of all North Carolinians, and is the area where the greatest growth is taking place in the State. Hence, it seems reasonable to expect some of this growth.

-- The Community College near Southern Pines will generate population and income throughout the County, and benefits will be received.

-- The County is known as a resort and retirement area throughout the United States. Carthage can capitalize on some of the tourist trade by publicizing the town's historical qualities, climate, and so forth.

-- The most important reason is the optimistic community spirit of the citizens, and the willingness of leaders to identify problems and work toward their solution.

-- Employment is expected to increase by about 21 per cent in Carthage and by about 20 per cent in Moore County.*

---

*Chapter II of this report, Population and Economy.

One of the biggest and most challenging problems will be to develop basic industries and service facilities which will increase the growth of the town. The expected growth is not based on any population projections, but only on assumptions. The Planning Board has compiled some basic goals which it would like to follow:

-- To encourage sound standards in developing future residential, commercial and industrial areas.

-- To encourage compact development, thereby avoiding large, vacant gaps. This compact development, in turn, will utilize the town's water and sewer systems more efficiently.

-- To designate and protect future lands for the anticipated needs which may come about in the future.

-- To provide an environment in which all socio-economic groups can satisfy their needs, wants, and desires.

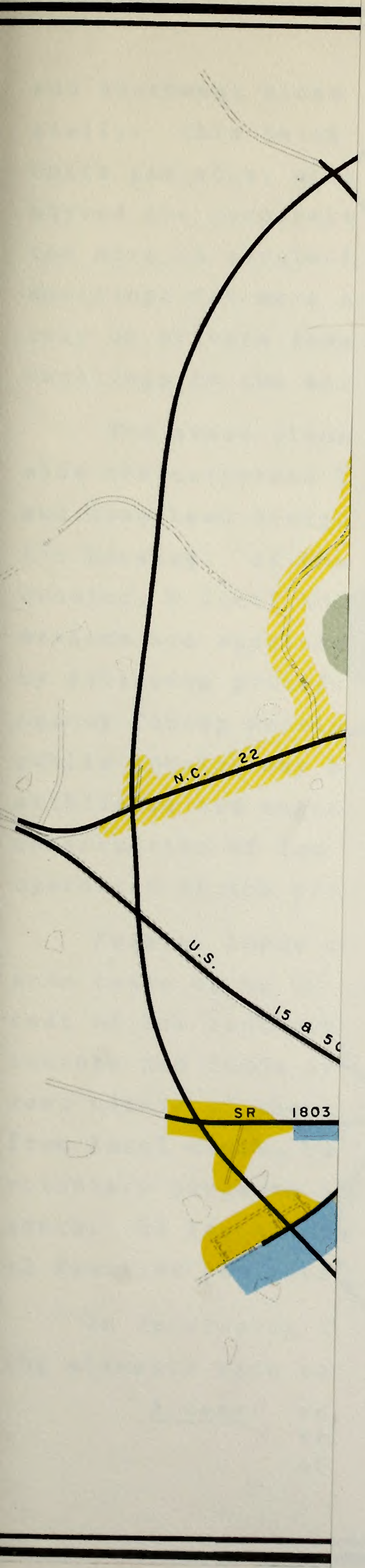
-- To provide for physical development and leisure time opportunities of all the people within the planning area.

Goals and objectives as broad as these will be analyzed under the Residential Development, Commercial Development, Industrial Development, Community Facilities, Utility Plan and Circulation Plan, sections of this chapter. Map 11 shows the land development plan and sketch thoroughfare plan for the planning area.

RESIDENTIAL DEVELOPMENT

In planning for the future residential development, consideration was given to existing population densities, public water, sanitary sewers, existing soils, and land uses.

The Land Development Plan shows two colors for residential development. One color designates short-range development, which will probably take place during the planning period. The other designates long-range development which may take place in the distant future -- perhaps 50 years or so. However, it must be assumed that the entire planning area will not be fully developed by 1980. It is the opinion of the Planning Board that the northern


N.C. 22
U.S. 15 & 50
SR 1803

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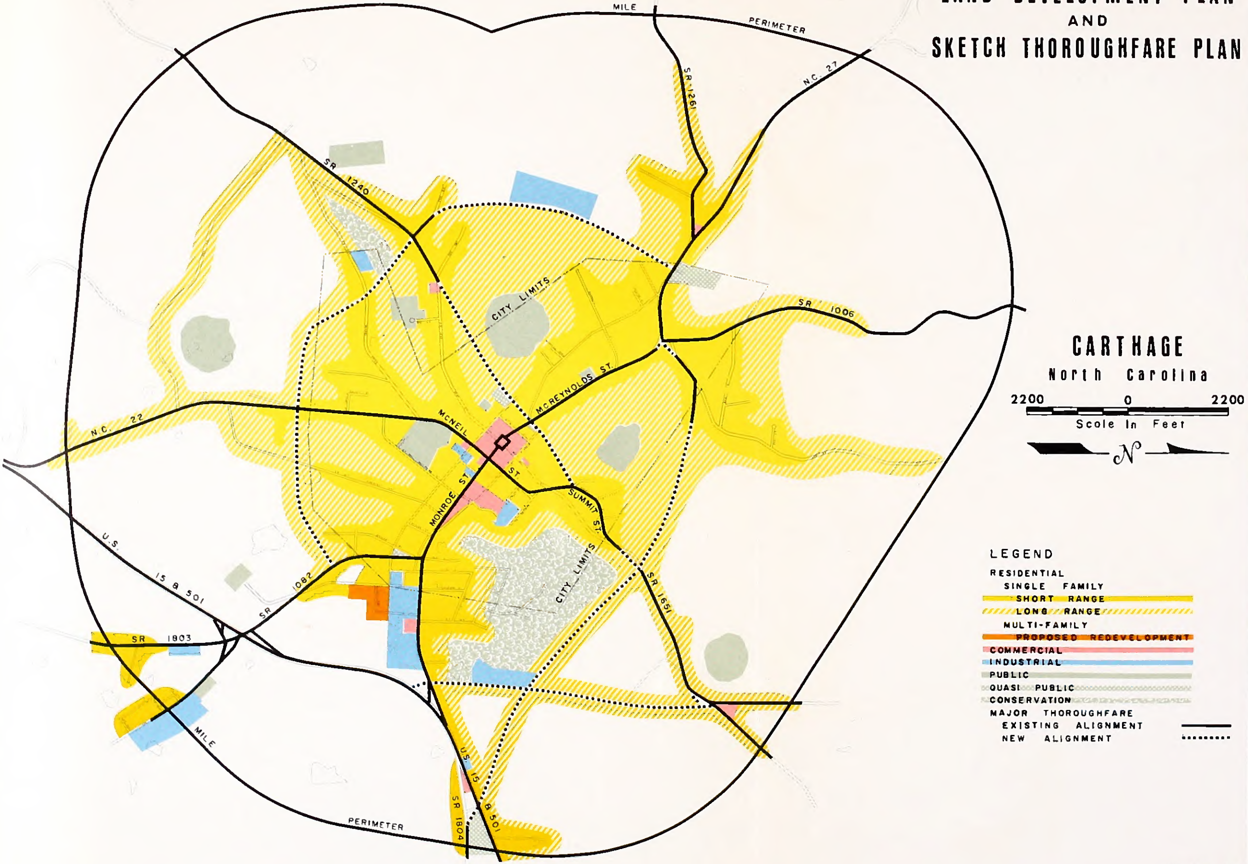
LAND DEVELOPMENT PLAN
AND
SKETCH THOROUGHFARE PLAN


CARTHAGE
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LONG RANGE
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PROPOSED REDEVELOPMENT
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CONSERVATION
MAJOR THOROUGHFARE
EXISTING ALIGNMENT
NEW ALIGNMENT
MILE
PERIMETER
N.C. 27
SR 1261
SR 1240
CITY LIMITS
SR 1006
MCREYNOLDS ST.
N.C. 22
MCNEIL
ST.
MONROE ST.
SUMMIT ST.
CITY LIMITS
SR 1651
U.S. 15 & 501
SR 1082
SR 1803
MILE
PERIMETER
U.S. 15 & 501
SR 1804

MAP-11

and southwest sides of town will be the first to develop residentially. This being so, the density should not exceed 4.1 dwelling units per acre, which is the existing density for the town. Density beyond the corporate limits should be no more than four families to the acre in single-family houses, or eight families per acre in dwellings for more than one family. As a rule, it is unsafe to rely on private sewage disposal where there are more than two dwellings to the acre.

The areas planned for multi-family development are just outside the corporate limits. The areas have deteriorated greatly and have been designated as a possible redevelopment area for public housing. If the Town of Carthage is interested in public housing, a local housing authority should be established. Five members are appointed by the town's governing body. This authority, by following procedures set forth by the Housing and Home Finance Agency Public Housing Administration, will select sites upon which public housing may be built. The Authority then proceeds to hire architects and engineers to prepare plans, award contracts for the construction of low rent units, and set policies for management and operation of the property.

Federal loans are made available to the local authority -- in some cases up to 90 per cent of the cost of the development. The cost of low rent public housing is paid for by the rent from the tenants and funds from the Federal government to insure the low rent nature of the program. Low rent housing is almost exempt from local taxes, but the local housing authority makes regular, voluntary payments in lieu of taxes up to 10 per cent of shelter rents. If redevelopment takes place, the density should not exceed 12 families per acre.

In developing the residential section of the plan, the following elements were considered:

Access: residential areas should be located so that travel is facilitated between them and places of major employment (industrial and commercial).

Density: usually densities are the highest around the town's commercial core. Density, once established by the plan and enforced through zoning, will set the basis for planning for schools, streets, and public utilities.

Traffic: through traffic should be kept out of residential areas. This can be brought about through the enforcement of subdivision regulations and by placing traffic arteries on the outside boundaries of the residential areas.

COMMERCIAL DEVELOPMENT

The planning area has a total of 18.2 acres of commercial facilities; 11.6 acres are within the corporate limits. Carthage serves as a small retail trade area for part of the county, and it is felt that if the existing commercial acreage were doubled this would more than satisfy any future needs. Highway business uses will probably be the fastest growing, and, therefore, the Land Development Plan assigns areas for this type of development along both sides of Highways 24 and 27 on the southeast side of town.

Moore County is mostly tourist-oriented, and Carthage could also cater to this trade with guided tours to places of historic interest, such as a plantation at the wide bend of Deep River, the commercial quail preserve, Ghost Town of Parkwood, and the pottery centers, to name a few. Local merchants should also make every effort to develop the central core area so that it is attractive to the tourist trade. Vacant land is available within the CBD, and the town can plan and zone it for specific uses, especially commercial, office and institutional. Through adequate planning, certain types of business can be encouraged with due care to their exact placement in an interesting and attractive setting and with plenty of parking areas.

INDUSTRIAL DEVELOPMENT

The future growth and prosperity of Carthage is going to depend heavily on the types of industries which the town will be able to attract to its planning area. So far, there are four industries: Clark's Hosiery Mills, Spencer's Lumber Company, Carthage Fabrics Corporation, and Currie Lumber Company. These four industries employ about 273 persons, but they are hardly large enough or numerous enough to support a town with a population of almost 1,200 people. The civic leaders must take the initiative in getting industry and other enterprises to come to Carthage. In order to expedite this objective, the Land Development Plan has set aside two large areas for future industrial development. Both areas are located next to a proposed road. One area is located on the northeast side of town outside the corporate limits. It contains approximately 21 acres and is in an ideal location with access to three highways (U. S. 15, 501 and N. C. 27). It is also a relatively flat area which is near a good source of water. The other industrial area contains approximately 50 acres and is located on the southwest side of town near the new proposed sewer plant. This area could easily be served with water and sewer facilities and therefore it is suggested that this site be made into an industrial park and zoned as such to protect it from other uses.

COMMUNITY FACILITIES

Cultural facilities include schools, libraries and recreation; protective facilities include the police and fire departments, rescue squad, hospitals and health centers. Administrative facilities include the various governmental offices. Space for all these facilities must be found within the planning area. Map 12 illustrates existing and proposed community facilities.

Schools

The Town of Carthage supports one white elementary school within the corporate limits. A non-white school is outside the corporate limits. Both schools are adequate for the town's needs.

The Carthage Elementary School has thirteen classrooms, a first aid room, audio-visual room, principal's office, lunchroom, office and a library. The Pinckney Union School has thirty-two classrooms, library, lunchroom and principal's office. There is no overcrowding in either of the two schools. Pinckney High School is a consolidated Negro school which serves the entire county with the exception of Pinehurst, Southern Pines, and Aberdeen. The Pinckney Elementary School serves the entire county, with the exception of Westmoore, West End, Pinehurst, Southern Pines, and Aberdeen Elementary districts.

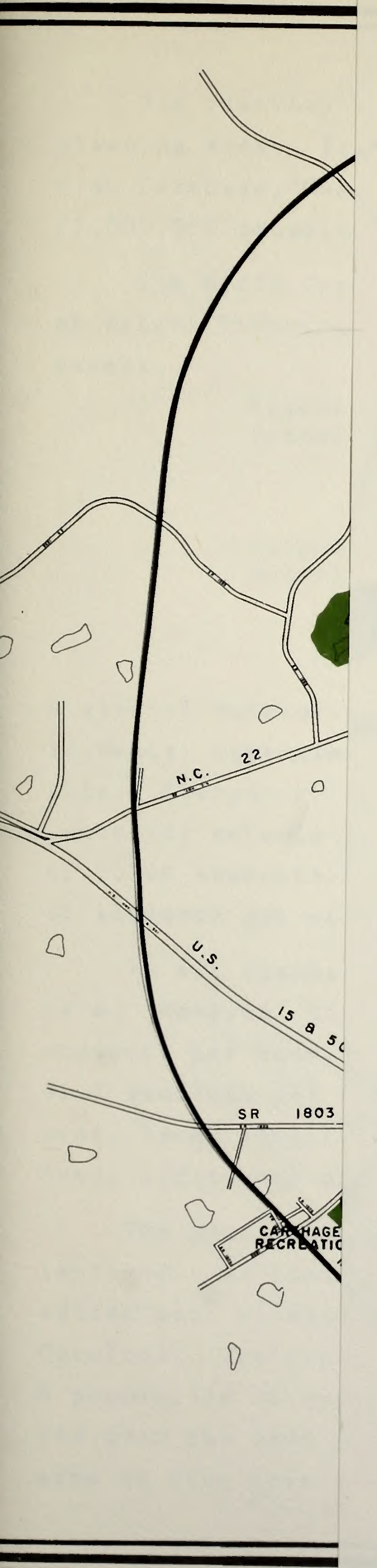
Title VI of the Civil Rights Act will require that all county schools be integrated. When such occurs, Carthage Elementary School enrollment will increase and Pinckney School enrollment will decrease because of integration.

Only Pinckney Union School is lacking in site acreage. It is slightly eight acres short of the recommended acreage. Carthage Elementary School has approximately 5.5 acres over the minimum standards set forth by the North Carolina Department of Public Instruction, Division of School Planning.

TABLE 23 EXISTING SCHOOL FACILITIES, CAPACITY, ENROLLMENT AND EXISTING AND PROPOSED SCHOOL SITE ACRES

	Grade	Capacity	Number Students	Acreage Deficiency or Surplus	Existing Acres	Proposed Acres
Carthage Elementary	1-8	550	514	+5.5	17.2	0
Pinckney Union	1-12		1,014	-8	20	8
Union Pines Senior High	9-12	600	580	+72	100	0

Source: Superintendent, Moore County Schools


N.C. 22
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CARTHAGE
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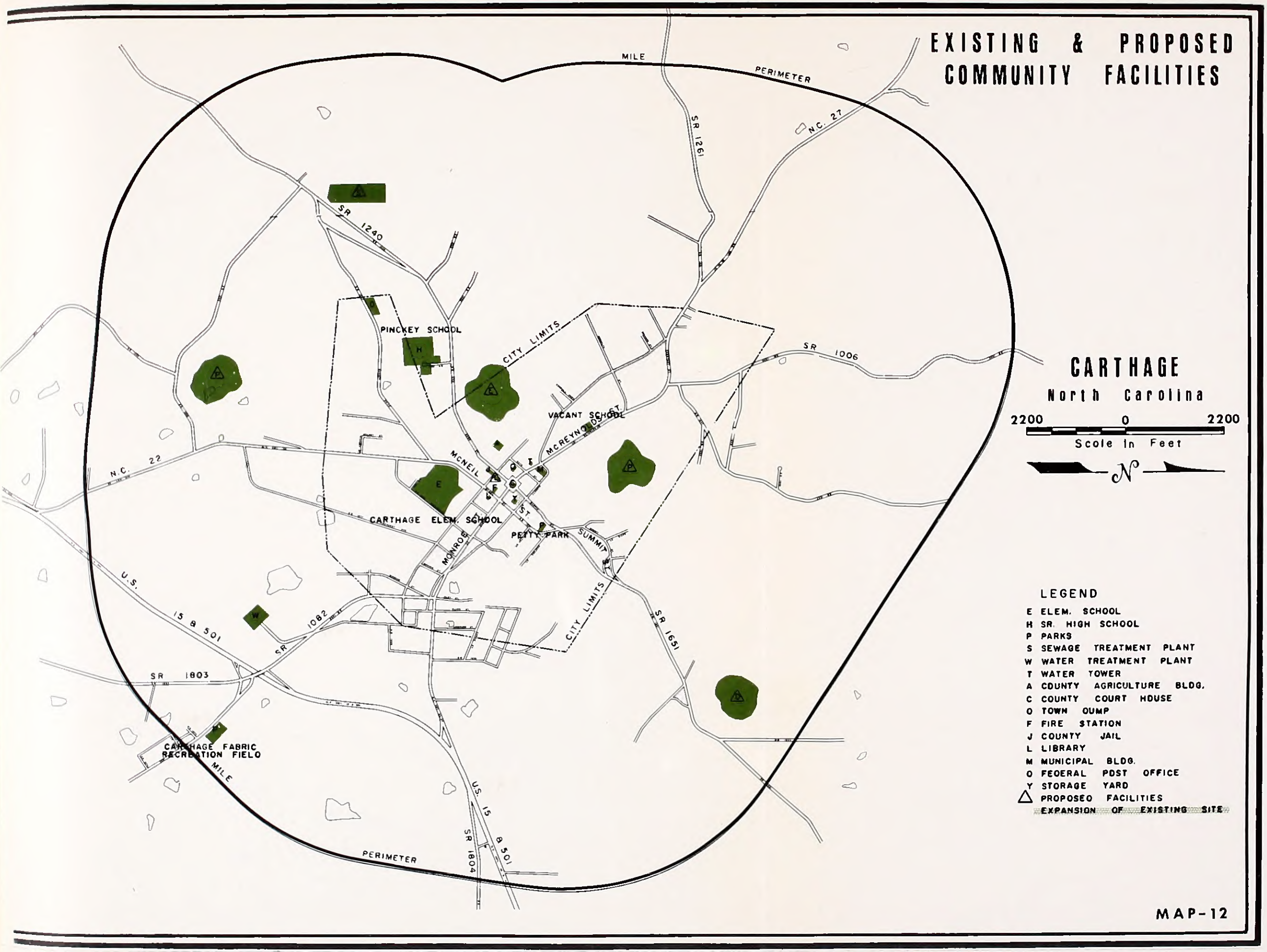
CARTHAGE
North Carolina
2200
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Scale in Feet
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MILE
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SR 1261
N.C. 27
SR 1240
PINCKEY SCHOOL
CITY LIMITS
SR 1006
VACANT SCHOOL
MCREYNOLDS ST.
MCNEIL ST.
N.C. 22
CARTHAGE ELEM. SCHOOL
PETTY PARK
SUMMIT ST.
MONROE
U.S. 15 & 501
SR 1082
SR 1803
SR 1651
CARTHAGE FABRIC RECREATION FIELD
MILE
PERIMETER
SR 1804
U.S. 15 & 501
P
H
E
S
W
D
LEGEND
E ELEM. SCHOOL
H SR. HIGH SCHOOL
P PARKS
S SEWAGE TREATMENT PLANT
W WATER TREATMENT PLANT
T WATER TOWER
A COUNTY AGRICULTURE BLDG.
C COUNTY COURT HOUSE
D TOWN DUMP
F FIRE STATION
J COUNTY JAIL
L LIBRARY
M MUNICIPAL BLDG.
O FEDERAL POST OFFICE
Y STORAGE YARD
△ PROPOSED FACILITIES
EXPANSION OF EXISTING SITE

MAP-12

The Pinckney Union School is the only secondary school in the planning area. It handles grades one through twelve. Students from Carthage, Cameron, Vass, Lakeview and Farm Life go to a new $1,000,000 consolidated high school in Union Pines.

The North Carolina Department of Public Instruction, Division of School Planning, recommends the following minimum school site sizes:

Elementary Schools	Minimum site size of ten acres for schools with less than 400 students; 12 acres for schools with 800 students. Service radius, one-half mile.
Secondary Schools	Minimum site size of 12 acres for schools with less than 400 students; 14 acres for 500 students; 16 acres for 600 students; 28 acres for 1,400 students.

A general rule-of-tgumb could be that for each additional 100 students, approximately one acre should be added to the school site. Elementary schools should range from 180 to 600 students. Secondary schools should range from a minimum of 400 to a maximum of 1,500 students. However, in no case should the maximum number of students per classroom exceed 30 students.

In all cases, Carthage seems to fit the standards set forth here. However, Carthage Elementary School has approximately 38.5 students per room, and Pinckney Union School has approximately 31.7 students per classroom. The overall school situation, however, looks excellent in the planning area. Only Pinckney School needs additional site acres.

The educational attainment of both schools could be greatly improved. As pointed out in Chapter II of this report, the educational attainment is way below urban areas in Urban North Carolina. The population projection shows that Carthage will have a population of approximately 1,045 in 1980. This is a loss of 145 over the 1960 population -- that is, if trends remain the same as they have in the past. Actually, since the schools are not overcrowded, it is felt that the School Board can meet any additional increase by improving and adding classrooms to the existing school facilities.

The Land Development Plan shows an area for a future school site on the southwestern side of Carthage should the need arise. Standards and principles used in the school site proposal include:

1. School site should be situated in the area in which the growth of the town is taking place.
2. Location should be free from noise, smoke, vibration or any other use which would be harmful or distracting to the students.
3. The school should be located on an improved road, but not on a major highway.
4. Slopes within the area should not be over 10 to 15 per cent, and there should be adequate ground cover in trees and grass.

Library

The library serves the town and entire county, but it is greatly inadequate for the demands. It is part of the Sand Hills Regional Library system along with a bookmobile which serves throughout the county. The existing site, located directly opposite the fire station on N. C. 22, does not provide for any off-street parking, and the facility itself has very limited room for books. Circulation statistics were unavailable for 1964; however, the number of volumes in stock for the same year was 29,000.

A new library is needed, and the town and county should investigate the possibility of building a new central library or of converting one of the old, though well-built, brick buildings into a modern library. One such building is the old Tyson Carriage factory, on N. C. 27 one block from the Square. This building, with its thick brick exterior walls divided into well-proportioned bays by piers, and with a series of arched windows, is a most interesting architectural design. The interior, with no walls, could be converted by the use of moveable wall partitions into any arrangement of space necessary to function as a library. Converting this building into a library or other community use would preserve one of the most interesting buildings in the town and create an asset at the entrance to the central business district. There is ample space for parking near it, and with walk terraces or fences it could be made to tie in with the improved N. C. 27.

Federal and State funds are available for central library construction, and the town and county officials should investigage the possibility of securing financial assistance. If this particular building is inconvertible, the Land Development Plan has set aside a plot of land for a new facility on the corner of Dowd Street across from the County jail.

Recreation

Recreation, like many other community facilities in Carthage, is woefully inadequate. The town has limited facilities, but it does not have an organized recreation commission or department. The only facilities in Carthage are:

- Petty Park, sponsored by the Junior Chamber of Commerce. The small swimming pool is a private facility and is open only to those who own stock.
- Existing school grounds which are fairly sizeable, but which are not supervised.
- One theater -- which has not been open for about four years.
- Carthage Fabric Athletic field, used mostly for softball. It is privately owned, and is exactly one mile southeast of the corporate limits -- really too far away for small children to enjoy.

A recreation commission or department should be organized. Young people need areas where they can play and develop healthy bodies and minds, and the more mature and retired citizens have leisure time to be occupied. The Recreation Enabling Act of

1945 allows any town in North Carolina to support a recreational program through a property tax levy, provided the citizens vote in favor of such a tax. The tax may be not less than three cents nor more than ten cents for each $100 of assessed valuation. The town's civic leaders should look into this Act to see if it can be of any benefit to the town.

Proposed Site Location for Future Parks

The National Recreation Association recommends that one acre be set aside for recreational purposes for each 100 persons in a community. Utilizing this standard the Land Development Plan assigns the following areas for future parks. The first is located on the northwest side of town between the triangle of S. R. 1647, Summit Street and McReynolds Street. This site will contain about ten acres and could serve about 900 to 1,000 people. Actually, this park will serve the community more as a neighborhood park with such playground equipment as swings, slides and similar equipment for small children. The second park site is located outside the corporate limits on the south side of town near N. C. 22 and S. R. 1256. This would be a relatively large park consisting of 20 acres and serving about 2,000 persons of all ages. These two future park sites, the small Petty park, and the school facilities should more than adequately handle the recreational needs of Carthage until 1980.

General criteria which should be taken into consideration when planning parks are as follows:

1. The facility should be located to provide the most service for the most people.
2. The facility must be planned to serve different age groups. These groups have their own needs and desires in terms of equipment and facilities.
3. The facility should be free from congestion, noise, smoke, odors, glare, fire hazards, and should be easily accessible.

Recreation Space Needs

-- Neighborhood playground: 10 to 12 acre site to serve an area 3/4 mile radius.

-- Community recreation: 20 to 40 acres with a service area of two miles radius.

Acquisition

1. Gifts. Some lands will have to be acquired outright by purchase or gift. A revolving fund set up to buy land for open space in advance of the need has saved large sums in areas where this procedure has been used.
2. Secnic rights or easements. Might be acquired by the State or County through purchase, leaving the land in private ownership, but subject to certain restrictions on development or use.
3. Subdivision regulations. May require a subdivider to dedicate or reserve land for parks, schools and open space. Subdividers are usually willing to make such a dedication because the value of the lots will be increased.
4. Urban renewal. Two-thirds of the net project cost contributed by the Federal Government, one-third of the net cost to be paid by the city. Should be used only when private development proves to be unfeasible.
5. Deferred tax arrangement. Would permit taxes to be deferred until sale or development takes place, at which time all back taxes would become due.
6. Zoning. Is used in the preservation of some types of open space.

PROTECTIVE FACILITIES

Police Department

The police department is located in the Municipal Building. It is in charge of keeping the peace, investigating crimes, preventing crimes, and controlling traffic. The present police force employs three full-time men, one chief, one assistant chief and one regular policeman. The police force does not receive any special training such as special schools or firing range. Major police equipment consists of one 1965 Ford cruiser which is not equipped with a two-way radio. Carthage's police force and equipment is felt to be adequate based on the population and size of the town, and the lack of crime within the town. However, the town should see about installing a two-way radio in the police car along with a unit in the Municipal Building.

Fire Department

The fire department is in charge of preserving lives and property in the community. It is located on the southeast side of town on N. C. 22, in a converted building that was formerly Town Hall.

The town has no full-time firemen, but 19 active volunteers and five semi-retired firemen have had some prior training in fighting fires. There is one chief, two captains, and one secretary, who helps in handling administrative details. There is a training grounds on the southeast side of town near the dump. Fire fighting equipment consists of two fire trucks, and one booster tank truck. These trucks include one 1952 Ford 2½ ton, 500 gallon per minute pumper, one 1945 Seagraves 500 gallon per minute pumper with a 600 gallon booster tank. All equipment is felt to be adequate, based on the town's needs, except that fire trucks do not have radio equipment installed.

The Fire Department holds fire prevention drives twice a year. These drives are publicized in the local newspaper, put on the radio, and so forth. Also, inspection records are kept and this data is given to the acting building inspector who uses this information in condemning substandard buildings.

Plans for the future call for one rural fire truck to be added in 1966. This new fire truck, together with existing trucks and the existing water pressure of 45 pounds per square inch, will bring Carthage a fire rating lower than the present rating of NB 8. The fire department is felt to be adequate for the town's needs based on the amount of area to be served.

Hospital

Carthage does not have a hospital within the planning area. However, Moore County has two hospitals. Moore Memorial Hospital located in Pinehurst, was established in 1930, had 225 beds, and just recently completed a $2,000,000 expansion which makes it one of the most modern hospitals in the State. Saint Joseph of the Pines Hospital, located in Southern Pines, was established in 1950 and has 80 beds. Both hospitals maintain surgical, general medical and nursing staffs. At the present time, Saint Joseph Hospital is in the process of remodeling. Both hospitals have adequate off-street parking. The hospitals are adequate for the county's needs since the occupancy rate for both is under 80 per cent. There are no current problems, although Moore Memorial Hospital's future plans eventually call for making additions to the hospital.

Rescue Squad

The town has a rescue squad which was established in October, 1962, with 17 active members. Quarters just recently built on Saunders Street are quite adequate. Major equipment consists of an ambulance, resuscitator, boat, dragline, rescue squad truck, and other minor equipment used in rescue work.

County Health Center

The County Health Center is located in Carthage and serves the town as well as the county with doctors, nurses and other sanitarians. The County Health Center is concerned with local health problems which cannot be solved by individual action. Examples are fluoridation of community water supplies, mental health, communicable diseases control, and health problems which affect large numbers of people. In addition, the Health Center provides many other services and works with other county and state agencies. The existing facility and staff are adequate based on the county's needs.

Convalescent Homes

Carthage has a convalescent home for old people which is situated on a 25-acre tract three miles from the corporate limits on the northeast side of town. Services provided are mainly for chronic diseases and long-term disabilities of the old. There are approximately 25 beds, and future plans call for expansion of the facility to 50 beds when the need arises. The medical staff consists of one doctor and three nurses.

ADMINISTRATIVE FACILITIES

Civic Buildings

The Municipal Building, recently remodeled, is located on McNeil Street on the west side of town. This building was erected in 1937 to house the police department, mayor's office, town clerk's office, fire department, and also to be used as an assembly hall. The building is still adequate, and will be for the duration of the planning period.

The County Courthouse is a two-story building built in the late 1920's. It is adequate for the County's needs. The Welfare Department, Employment Security Commission, County School Board, Register of Deeds, Sheriff's office, tax office, Highway Patrol Department, and the County Court, and located in this building. All of these departments seem to have sufficient space in the building, but they could require additional space in the future.

County Jail

The jail is located on the south side of town on the corner of Dowd Street. It is inadequate in space and sanitary facilities. It is recommended that the County tear down this dilapidated building and build a new, more up-to-date county jail. The best location would be on the same site which the jail now occupies.

Federal Post Office and County Agricultural Building

The Post Office is located on Ray Street and was built in 1962. This building and the new County Agricultural building (built in 1964) in the same vicinity are the two newest and best designed buildings in the town. Both are adequate for the needs.

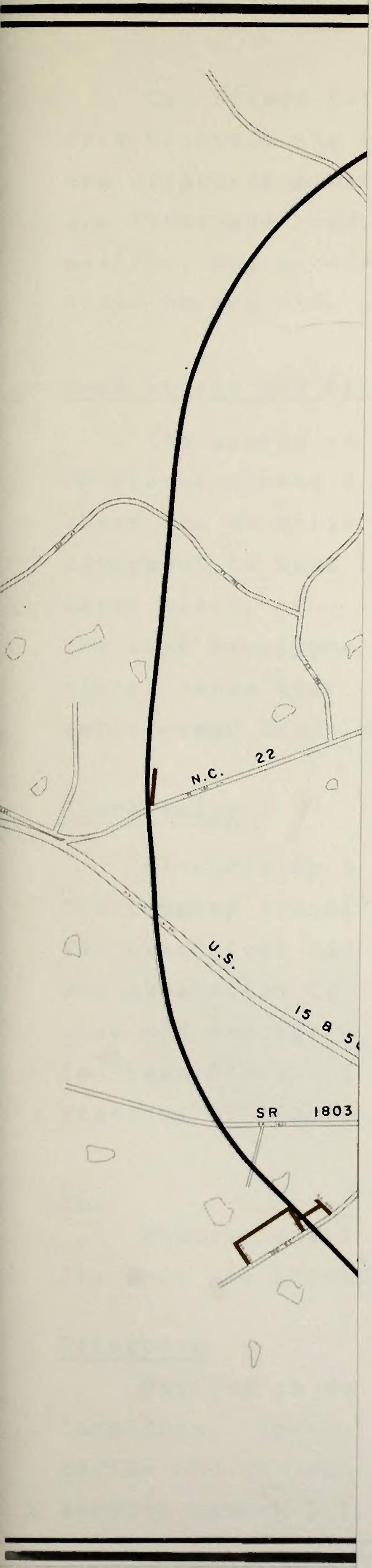
Refuse Collection and Disposal

Refuse collection is provided by the town once a week to all residences, and to commercial and industrial establishments. The town does not provide any services outside the corporate limits. This is taken care of by a private contractor. The Sanitation Department uses three men and one open bed dump truck with side boards for handling garbage and refuse collection. However, there is some overlapping of duties. For example, the Sanitation Division sometimes works on various maintenance projects, and the Street Maintenance Department crew sometimes helps clean up. There is a total of ten men for both departments.

Carthage disposes of refuse by the sanitary land fill method which is one of the most popular methods used for small towns. This type of disposal allows the town to salvage unusable land while providing a safe, nuisance-free means of disposing of the town's refuse. The sanitary land fill is adjacent to the corporate limits on the south side of town and contains approximately 20 acres which should give it another ten years of usefulness. Plans call for developing a new sanitary land fill site away from the town to avoid some of the odors and problems of the present site. The new site will be located on the northeast side of town near the fire tower, between SR 1651 and SR 1644. This new site combined with the old site should serve the town for the duration of the planning period. The Land Development Plan shows approximately 45 acres for the new sanitary land fill site.

Street Maintenance

The town maintains approximately 6.2 miles of street, of which 5.1 miles are paved and 1.1 miles are unsurfaced. The State Highway Commission maintains about 4.1 miles of streets within the present corporate limits. Map 13 shows roads which are paved and unpaved for the entire planning area.


N.C. 22
U.S.
15 & 5
SR 1803

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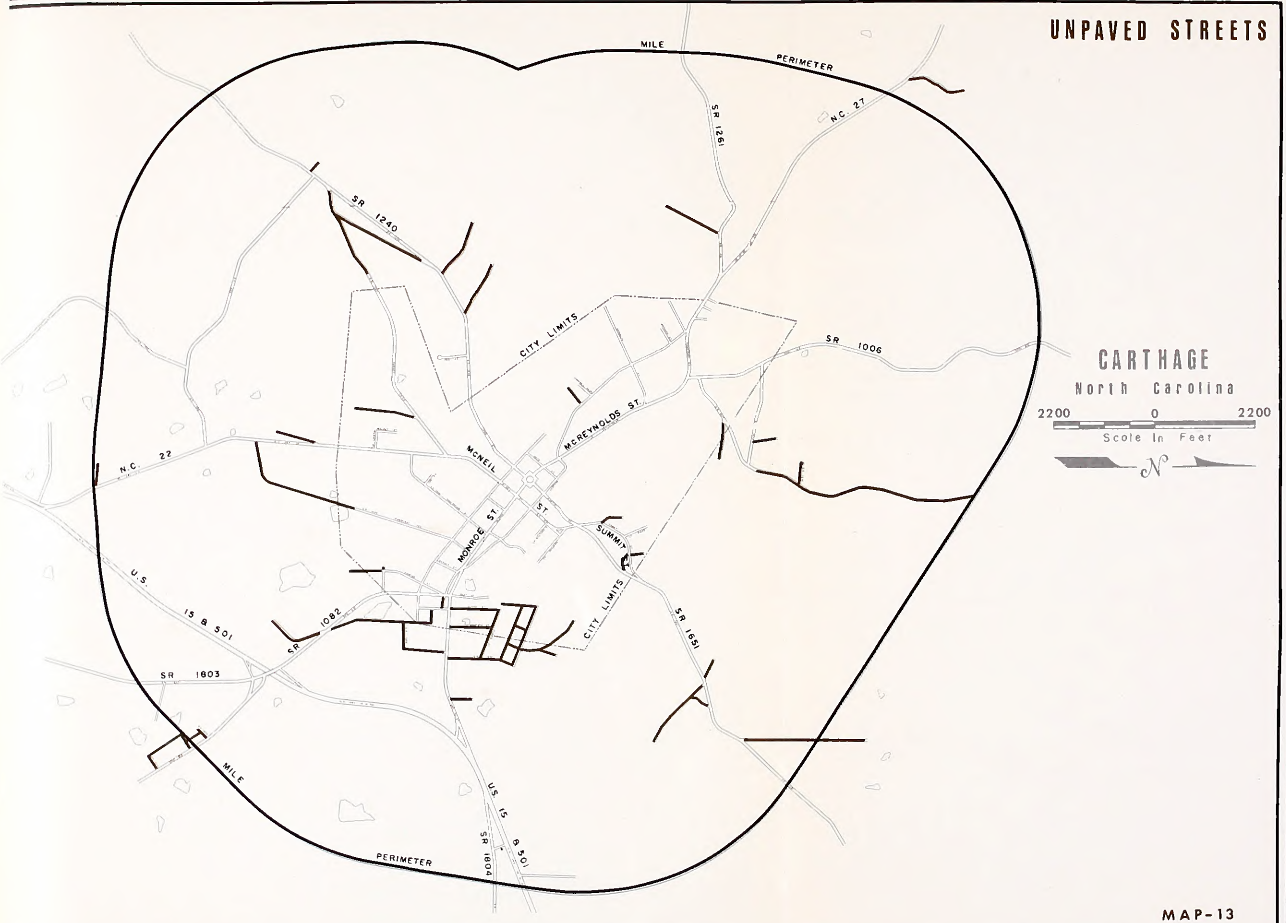
UNPAVED STREETS


CARTHAGE
North Carolina
2200
0
2200
Scale In Feet
N
MILE
PERIMETER
MILE
PERIMETER
CITY LIMITS
CITY LIMITS
SR 1261
N.C. 27
SR 1240
SR 1006
McREYNOLDS ST.
McNEIL
ST.
MONROE ST.
SUMMIT ST.
N.C. 22
U.S. 15 & 501
SR 1082
SR 1803
SR 1651
U.S. 15 & 501
SR 1804

MAP-13

The Street Department operates with five employees who not only maintain the existing streets, but also the sidewalks within the corporate limits. The employees work with one dump truck, one front end loader-tractor with back hoe, one tractor mowing machine, and several smaller mowers. This equipment is adequate based on the size of the town.

Town Garage and Storage Yard

The garage and storage yard is located behind the water tanks on the northwest side of town. The site contains one-half acre. There are no offices located on the site. Only part of the town's equipment is kept here since minor maintenance is handled at the water plant. The site is inadequate for the equipment; therefore, the Land Development Plan recommends that the town acquire additional lands near this site, or move the facility to other municipally-owned lands.

Electricity

Electricity is provided by Carolina Power and Light Company. The company installs and maintains the street lights of Carthage. The electrical coverage is quite adequate for the town's needs. One substation is located on Vass road, and the maintenance office, shop and storage yards, and business offices are located in Southern Pines. There are no present or future plans for new substations or lighting fixtures.

Gas

Natural gas is not provided by a private company or the town. The only gas which the town has is bottled gas.

Telephone

Service is provided by the United Telephone Company of the Carolinas. The business office is on McNeill Street; district office and storage yards are in Southern Pines. Telephones in service number 1,156.

UTILITY PLAN

UTILITY PLAN

Public utilities supplied by Carthage include water, and sewage disposal systems. (Map 6, Chapter III) Both of these utilities have been expanded. The extent of these systems is explained also in Chapter III under the heading of "Water Supply" and "Sanitary Sewage Disposal System". The initiative shown by the town in this expansion will eventually lead to the proper development of the Town of Carthage.

This part of the Land Development Plan draws heavily on a preliminary report, Pollution Abatement Facilities and Water Improvements, Town of Carthage, Moore County, North Carolina, prepared by Moore Gardner and Associates. Future water and sewage treatment needs were based on estimates arrived at in this preliminary report. Carthage furnishes water to all inhabitants within the corporate limits. The town also furnishes water to a large percentage in the outer fringe area. The largest area being served outside the corporate limits is on the east side of town along U. S. 15, 501, and N. C. 27. Water is also furnished to the Carthage Fabric Mill located practically one mile from the corporate limits. A new source of water (100-acre lake site on Nicks Creek) can supply an unlimited amount of water almost anywhere in the planning area without too great a cost. Map 14 illustrates the existing water system and the proposed new lines.

The present sewer system, unlike the water system, would cost a great deal of money for any large expansions. The town is presently under contract to construct a new sewage treatment plant southwest of town. Future expansion of the sewer system can be seen on Map 15. The extent of the future sewer system is mainly to the northwest and southwest. In fact, the southwest side of town has more potential for development than the far eastern side mainly because of the new sewage treatment plant.

Soil Suitability

In the design of subsurface sewage disposal systems, it is important to determine whether the soil is suitable for absorbing the septic tank effluent and, if so, what areas of nitrification trench will be required. The percolation rate of the soil must be acceptable, without interference from high ground water table or impervious rock or clay formations below the level of nitrification field. Generally, two conditions must be satisfied:

1. The percolation time must not exceed 60 minutes per inch as indicated in Table 27.
2. The ground water table should be at least four feet below the surface of the ground. Impervious formations of rock or clay should be at depths greater than four feet below the bottom of the nitrification field.*

When these two conditions are not satisfied in the planning area, the residential site is not suitable for subsurface sewage disposal except for isolated systems.

Soils within the planning area are excellent for absorbing the effluent of septic tanks. Actually, only one soil is poor for septic tanks purposes and this is Wadesboro Gravelly Silt Loam (Mixed Phase). The soil's subsoil is a mixture of friable silty clays which usually extend to a depth of three feet under normal conditions. This soil is on the southwest side of town near the area where the new sewage disposal plant is to be located.

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*Residential Sewage Disposal Plants, How to Build and Maintain Them, Bulletin 519, Revised March, 1960. (Secured from Moore County Health Department)

N.C. 22
U.S.
WATER TREAT
PLANT
8 5
SR 1803

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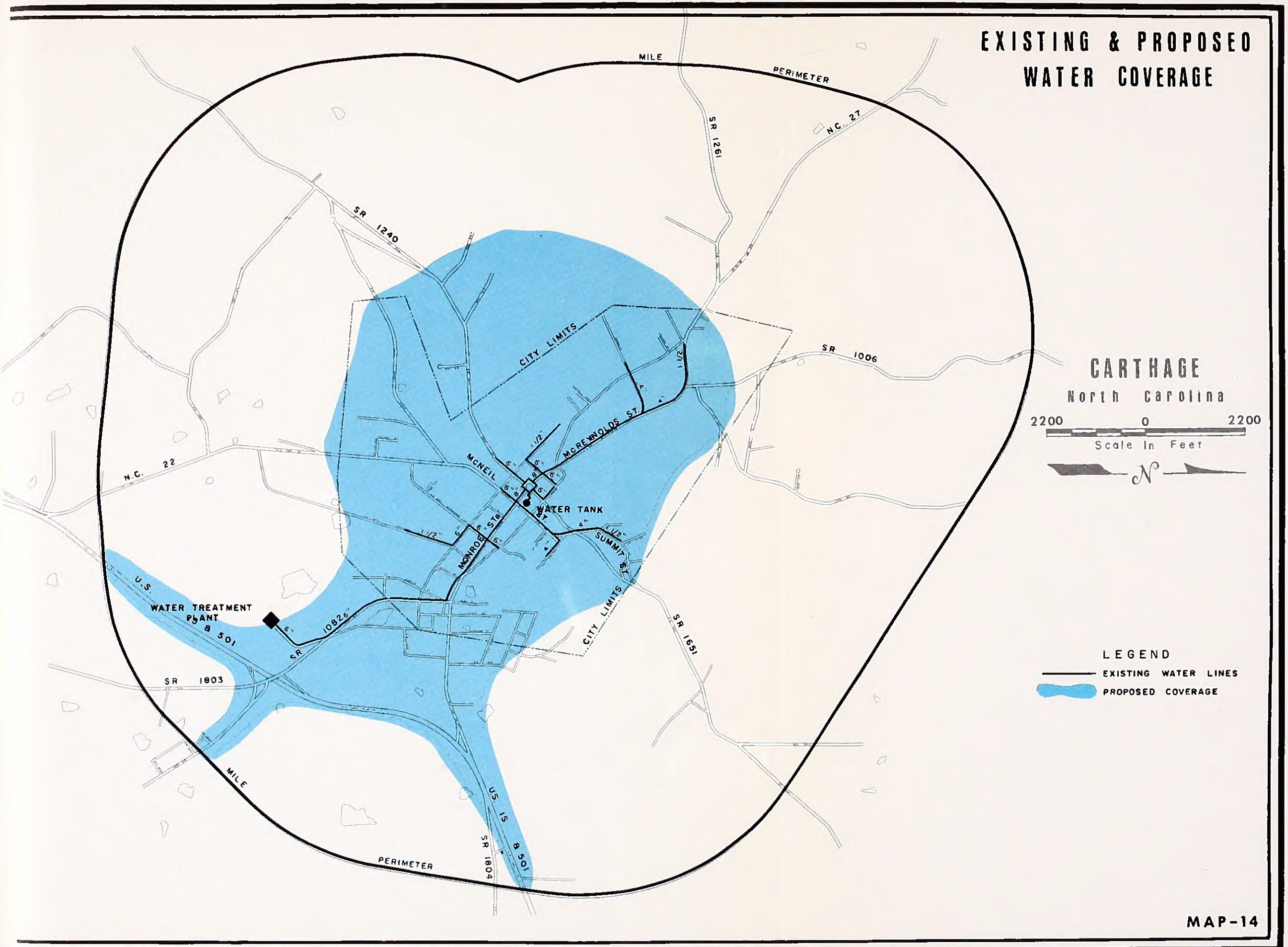
EXISTING & PROPOSED WATER COVERAGE

CARTHAGE

North Carolina


MILE
PERIMETER
MILE
PERIMETER
SR 1261
N.C. 27
SR 1240
CITY LIMITS
SR 1006
N.C. 22
MCNEIL
MCREYNOLDS ST.
WATER TANK
MONROE ST.
SUMMIT ST.
CITY LIMITS
U.S. 15 & 501
WATER TREATMENT PLANT
SR 1082
SR 1803
SR 1651
US 15 & 501
SR 1804
6"
8"
4"
1 1/2"
2200
0
2200
Scale In Feet
N
LEGEND
EXISTING WATER LINES
PROPOSED COVERAGE

MAP-14

TABLE 24 DATA FOR DETERMINING NITRIFICATION FIELD REQUIREMENTS FROM PERCOLATION TEST*

Average Time Required for Water to Fall One Inch (in minutes)	Effective Absorption Area (area in bottom of nitrification trench) in Square Feet per Bedroom(a)
2 or less	50(b)
3	60(b)
4	70(b)
5	80(b)
10	100(b)
15	120(b)
30	180
60	240

(a) Effective absorption area should be increased by 50 per cent whenever automatic sequence washing machines are used.

(b) A minimum of 150 square feet of effective absorption area shall be provided per living unit.

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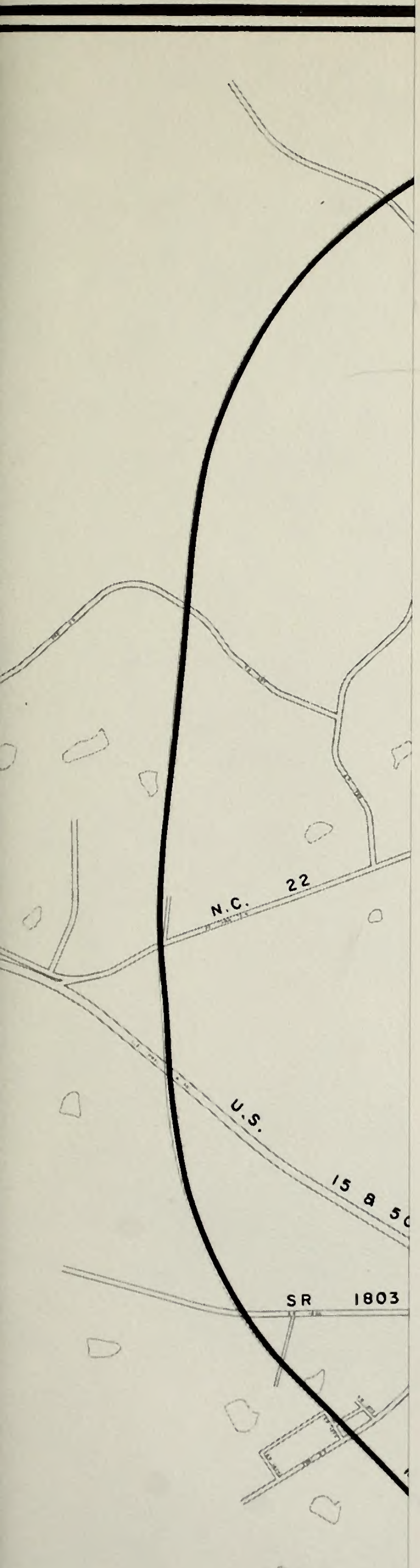
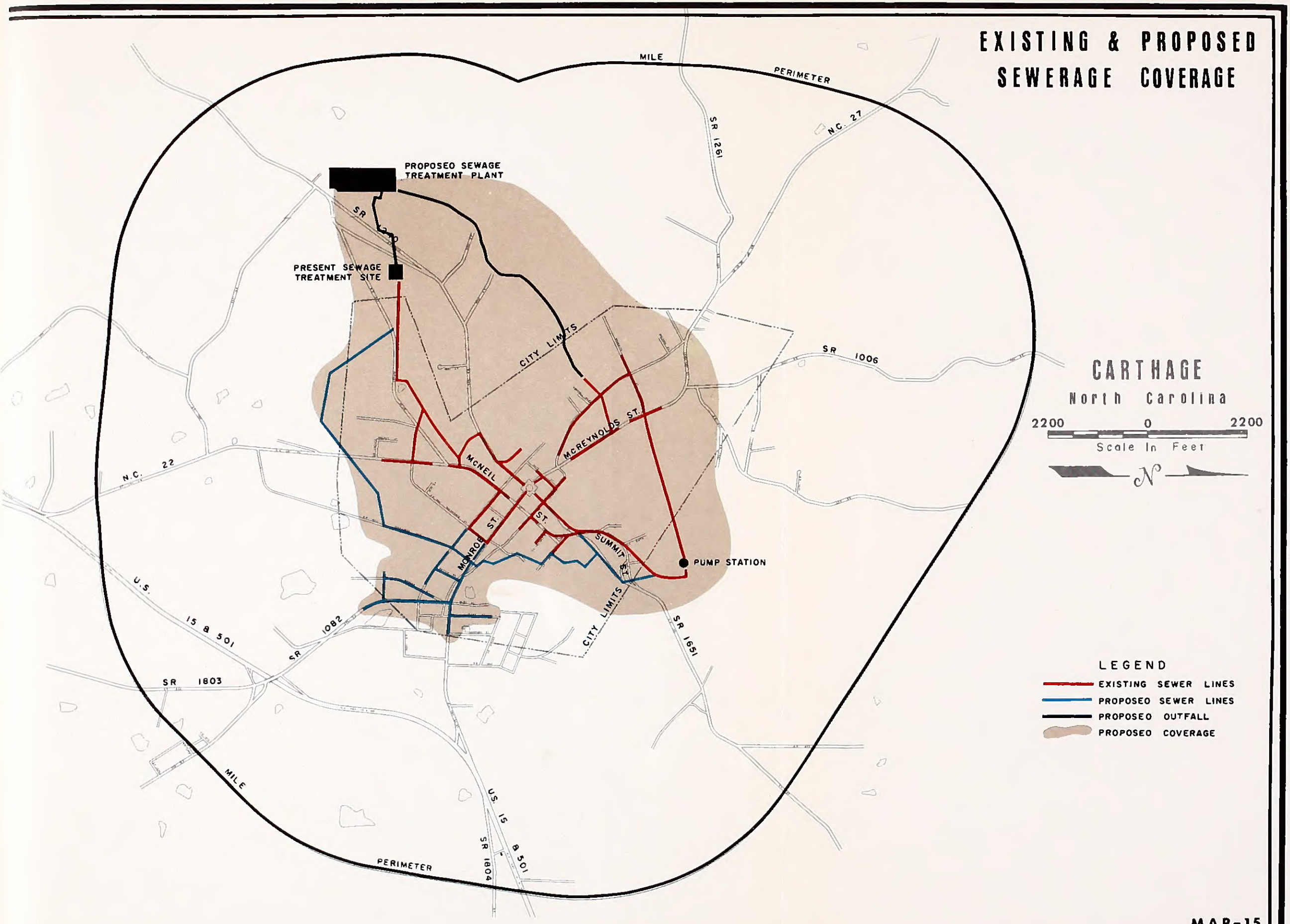
*Ibid, Page 7

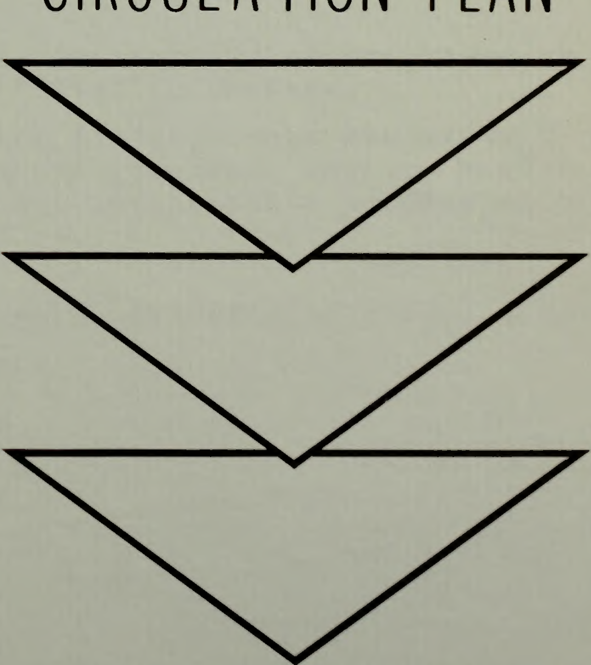

N.C. 22
U.S.
15 & 5
SR 1803

EXISTING & PROPOSED SEWERAGE COVERAGE


MILE PERIMETER
SR 1261
N.C. 27
PROPOSED SEWAGE TREATMENT PLANT
SR 1300
PRESENT SEWAGE TREATMENT SITE
CITY LIMITS
SR 1006
McNEIL
MCREYNOLDS ST.
N.C. 22
ST.
MONROE ST.
SUMMIT ST.
PUMP STATION
U.S. 15 & 501
SR 1082
CITY LIMITS
SR 1651
SR 1803
MILE PERIMETER
U.S. 15 & 501
SR 1804
CARTHAGE
North Carolina
2200 0 2200
Scale In Feet
N
LEGEND
EXISTING SEWER LINES
PROPOSED SEWER LINES
PROPOSED OUTFALL
PROPOSED COVERAGE

MAP-15

CIRCULATION PLAN



CIRCULATION PLAN

SKETCH THOROUGHFARE PLAN

Thoroughfare planning is one of the most important elements in the Land Development Plan. In fact, the Plan could hardly function or exist without an adequate transportation plan. It is the thoroughfare plan which ties together or meshes the physical and economic elements of the town. Any town which expects to grow must give a great deal of consideration to its transportation system.

Principles

In formulating the thoroughfare proposals contained in this section, the following basic principles were considered:

1. Thoroughfare development should conform to and encourage planned use as established in the Land Development Plan.
2. The thoroughfare plan should afford convenient access between all major residential, commercial, and industrial areas within the planning area.
3. Provision and maintenance of a paved street system is a vital and integral feature of sound community development. Every effort should be made to establish and maintain a policy to develop this system. The future subdivision regulations of Carthage will greatly encourage such a policy for development.
4. Improvement of existing and construction of new thoroughfares must anticipate future traffic demands.
5. Even though thoroughfares are designed in a manner to promote the type of development intended, caution must be exercised to avoid creating inaccessible pockets of land.

Elements in an efficient circulation system should have some or all of the following basic elements:

Residential Collector Street

A street which funnels traffic from minor residential streets to major streets. Ideally, each class of streets should lead into a street carrying the next greatest volume of traffic.

Service or Local Street

The main function of a service street is to provide direct access to residential structures. Traffic is a secondary function of local streets. Through traffic movements can be discouraged by designing these streets as loops or as cul-de-sacs (dead-end streets with turnarounds).

Radial Street

The main purpose of radial streets is to provide for traffic movement between points located in the outskirts of the city and the central area.

Crosstown Street

The purpose of the crosstown system is to relieve the streets of the central business district of unnecessary traffic which has no destination there. With such a system, the main shopping area of a town is free to function as a pedestrian shopping area.

The Loop System

The loop system's main purpose is to carry traffic between suburban areas of the city without having to go through or by the central business district where it would interfere with the central traffic. The loop system relieves congestion in the center of the city and shortens travel time. There can be one or more loops depending on the size of the urban areas. The spacing of the loops is usually one-half mile to two miles apart.

Bypass

The main purpose of a bypass is to carry traffic through or around the urban area, thereby relieving the city streets by removing traffic which has no desire to be in the city.

Parking

Parking is as important as the circulation system itself. In fact, it is an integral part of the system. One of the most serious obstacles to the free movement of traffic is the use of street space for parking and for loading and unloading. Unless adequate parking and loading and unloading facilities are provided at terminal points, streets cannot carry out their intended purpose of moving persons and goods to their destinations. Indiscriminate parking along streets not only slows down or ties up traffic movement, it can also be very dangerous at intersections and along curves.

Ample vacant land is available within the central business district which could be utilized for off-street parking. This is usually the area with the least amount of space available for parking. Parking spaces should be made available for residents, visitors, and service vehicles in connection with both community facilities, residential and business areas. Parking for residential areas should accommodate at least one car per dwelling unit.

Carthage has no outstanding parking problems except what exists in the central area of town -- where cars park in all corners of the Court House Square. There should be some remedy for this problem. Perpendicular parking should not be allowed because of cars and trucks backing into a moving lane of traffic. Immediate attention must be given to undesirable and dangerous parking around the Court House and in the CBD proper. Either of two remedies could be applied:

1. Metered parking lots (depending on certain conditions) can be developed in all four blocks surrounding the Court House; or
2. Efforts of the local merchants to clear and develop adjacent areas for off-street parking should be stimulated and encouraged.

However, as a temporary stop-gap, perpendicular parking must be discouraged and parallel parking spaces only tolerated. Narrow streets are being overtaxed, and a poor situation is growing worse.

1963 Annual Average Daily Twenty-Four Hour Traffic Volumes on Hard Surfaced Roads

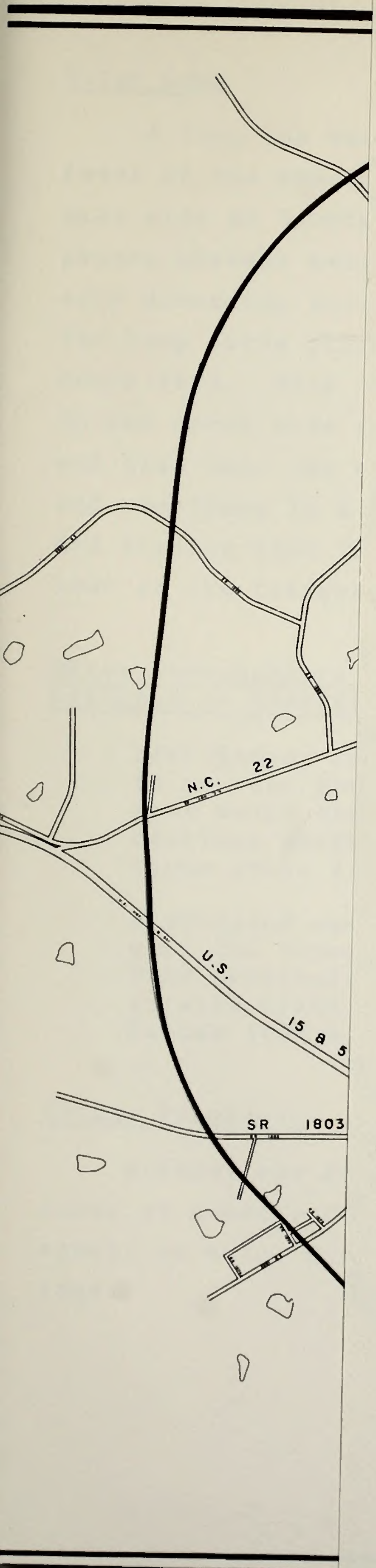
Map 16 indicates that N. C. 22, 24 and 27 are the heaviest travelled routes through Carthage, with an average of about 3,450 to 3,500 vehicles passing along these routes each day. N. C. 22 along carried approximately 2,200 vehicles through town. The streets and routes which flow into the Court House Square make this area the most congested with approximately 5,400 vehicles in a 24-hour period.

Based on the criteria discussed in this section, the proposed thoroughfare plan was developed through the joint efforts of the Carthage Planning Board, the Division of Community Planning, and the Advance Planning Department of the State Highway Commission. Map 17 illustrates the Sketch Thoroughfare Plan and Table 28 gives projected minimum street standards for the planning area.

TABLE 25 PROJECTED MINIMUM STREET STANDARDS CARTHAGE PLANNING AREA

Type of Street	Right-of-Way Widths in Feet	Pavement Width in Feet****
Major Thoroughfare	100-80*	54
Bypass	120	92**
Residential Collector	60	45
Local or Minor Residential	50	37
Cul-de-sacs	50	32
Streets located within the town's one-mile perimeter area	60***	37

*80 feet acceptable, but 100 feet desirable.
**44 feet median strip.
***60 feet is the minimum size State Highway Department will maintain.
****measured back to back of curb.


N.C. 22
U.S.
15 & 5
SR 1803

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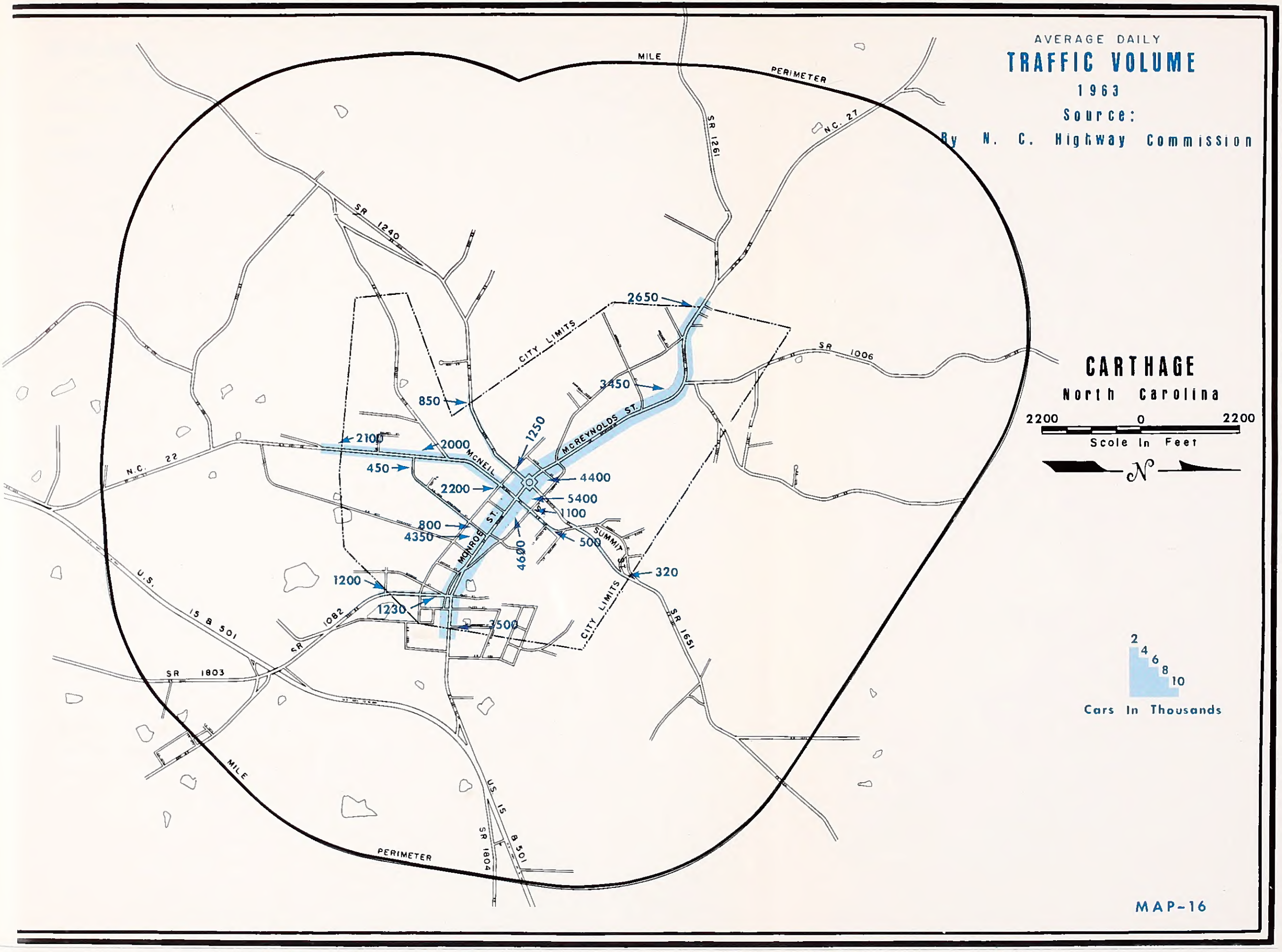


AVERAGE DAILY

TRAFFIC VOLUME

1963

Source:

By N. C. Highway Commission

CARTHAGE

North Carolina

2200
0
2200
Scale In Feet
N
2
4
6
8
10
Cars In Thousands
MILE
PERIMETER
MILE
PERIMETER
N.C. 27
SR 1261
SR 1240
SR 1006
N.C. 22
U.S. 15 & 501
SR 1082
SR 1803
US 15 & 501
SR 1804
SR 1651
CITY LIMITS
CITY LIMITS
McREYNOLDS ST.
McNEILL
MONROE ST.
SUMMIT ST.
2650
3450
850
1250
2100
2000
450
2200
4400
5400
1100
800
4350
4600
500
320
1200
1230
3500

MAP-16

Outer Loop

A loop has been proposed on the northwest side of town in front of the cemetery on Cemetery Street. It loops around the west side of Carthage and ties into the existing State Route 1260, passes through existing State Route 1240 and continues in a southerly direction across Sunset Drive, N. C. 22 and Pinehurst Avenue. The loop turns slightly toward the north and ties in with State Route 1802. This completes the southern part of the outer loop. On the north side of town the outer loop starts at Cemetery Street and ties into the existing State Route 1647 then veers to the right and continues in a southerly direction across State Route 1651, and finally ties into U. S. 15, 501, and N. C. 27 and State Route 1804 at the fairground -- thus completing the outer loop.

Other Thoroughfare Proposals -- Designed in General

Realignment of State Route 2340 or Dowd Street in order to correct poor circulation within the CBD. This new road would start at State Route 1259 on the south and continue north to connect with Barrett Street and continue until it joins Summit Street.

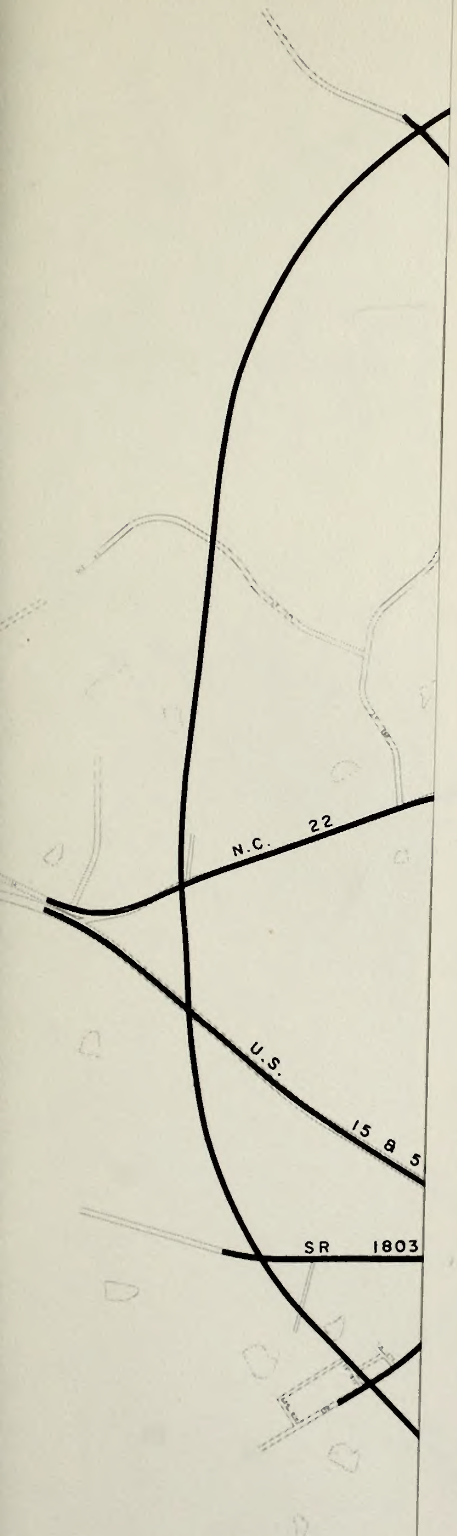
A proposed road starting on the northeast side of town near the intersection of U. S. 15, 501, and N. C. 27. This particular road continues directly north and ties in with State Route 1658 at the intersection of State Routes 1658 and 1651.

Bridge Proposals

Bridges are recommended in areas where railroads and roads cross at grade levels. Also, bridges are recommended where rivers, creeks or major grade separations occur in the topography of the land.

Procedures of Implementing the Thoroughfare Proposals of the Plan

1. Long-range programming of improvements whereby cost will be met by the town with a certain percentage from the State.
2. Enforce subdivision regulations and require subdivision plats to conform with the Land Development Plan.
3. Establish building line setbacks.
4. Acquire rights-of-way by the town and state in those areas where it will not be possible to obtain rights-of-way by dedication.
5. Understand the thoroughfare plan and anticipate where and when necessary street widening and construction should occur.


N.C. 22
U.S.
15 & 5
SR 1803

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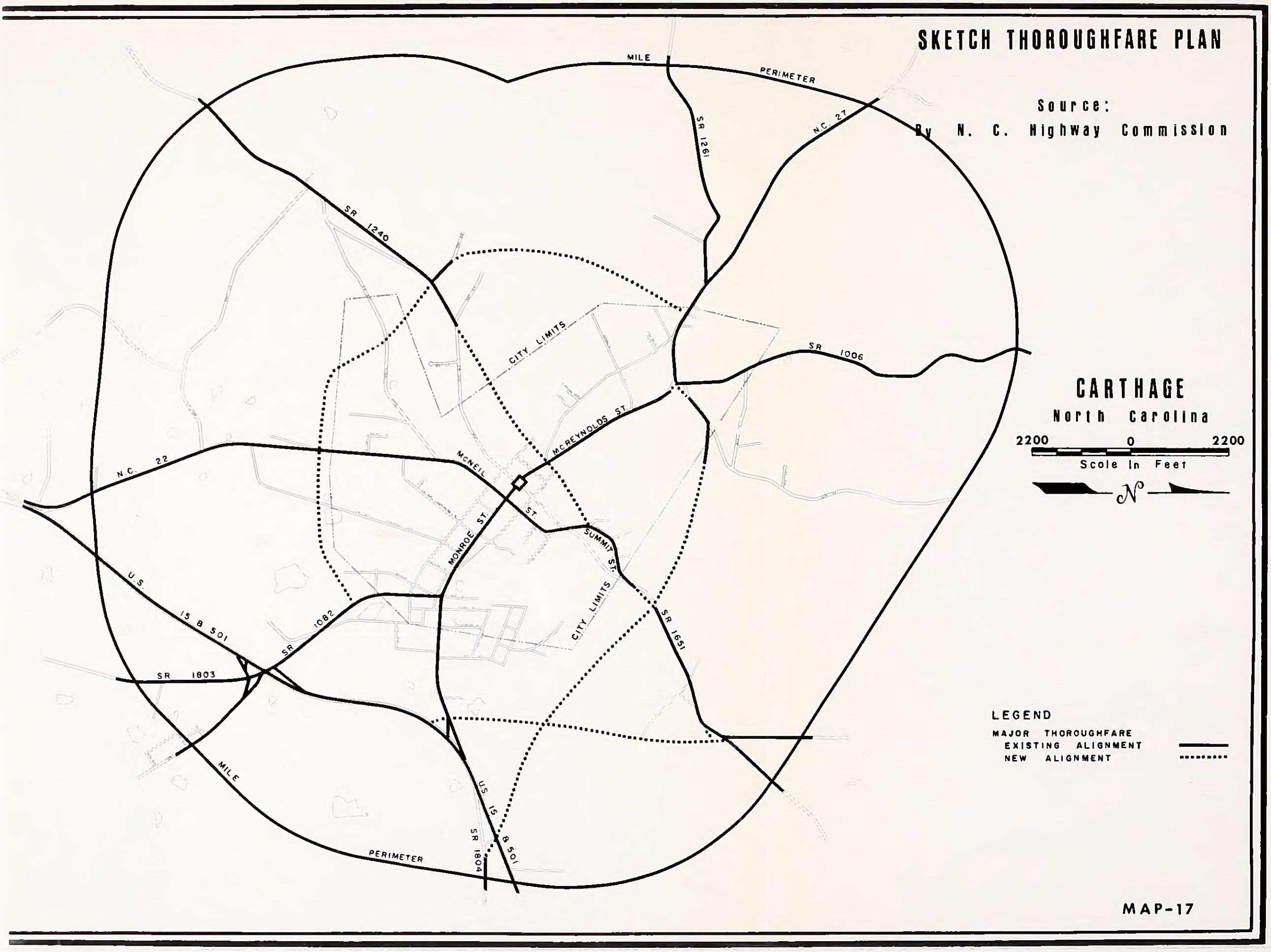

MILE
PERIMETER
SR 1261
N.C. 27
SR 1240
CITY LIMITS
SR 1006
McREYNOLDS ST.
McNEIL
ST.
N.C. 22
MONROE ST.
SUMMIT ST.
CITY LIMITS
SR 1651
U.S. 15 & 501
SR 1082
SR 1803
MILE
PERIMETER
US 15 & 501
SR 1804
2200
0
2200
Scale In Feet
N

SKETCH THOROUGHFARE PLAN

Source:
By N. C. Highway Commission

CARTHAGE

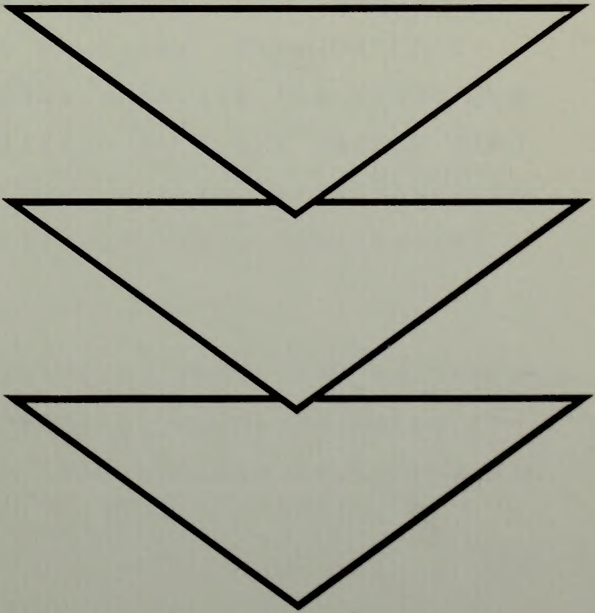
North Carolina

LEGEND

MAJOR THOROUGHFARE
EXISTING ALIGNMENT ▬
NEW ALIGNMENT ┈┈

MAP-17

IMPLEMENTATION OF THE PLAN



IMPLEMENTATION OF THE PLAN

If the Land Development Plan is to mean anything or become a reality to the Town of Carthage, it must be implemented. Several tools are recommended for implementation such as zoning, subdivision regulations, urban renewal, capital improvements program, building and housing codes, and citizen participation.

Citizen Participation

It is essential that the plan and its proposals be well publicized in an effort to inform local citizens of its objectives. Once this is done, public officials will find that local citizens will work for the accomplishment of the plan. Some ways of education the public are --

-- meetings
-- hearings
-- debates
-- polls and surveys
-- press, radio, television

Zoning

At the beginning of this study Carthage did not have the authority to adopt a zoning ordinance which would apply to the one-mile fringe area because the County was exempt from State zoning enabling legislation. However, in the last session of the General Assembly, this examption was removed. Also, a floor amendment was adopted on April 7, 1965, removing the 1,250 population limitation so that municipalities in Moore County with less than 1,250 population could have extraterritorial jurisdiction. Therefore, Carthage can now exercise extraterritorial zoning jurisdiction

Zoning is perhaps the most extensively used tool in implementing a land development plan. A zoning ordinance helps to insure that a logical distribution of the various land uses and dwelling densities is achieved. It also leads to land use and subsequent traffic flow stability. Hence, zoning is important in bringing about both thoroughfare development and general land development. Most modern zoning ordinances set standards for the provision of off-street parking spaces by new developments with the goal of eventual prohibition of all on-street parking on major streets.

Another important use of the zoning ordinance is the establishment of building "setback" requirements on major streets and thoroughfares. Such requirements will assure that future building construction will occur at a sufficient distance back from the existing street so that widening can be accomplished with a minimum of cost or property damage. It should be remembered that zoning is not an end unto itself; it should be revised from time to time so as to assure that development approaches the Land Development Plan.

Subdivision Regulations

One of the most effective tools for the implementation of the land development plan is the subdivision regulations. These regulations require anyone subdividing land to submit proposed plats of the subdivision to the Planning Commission for approval before it is legal to proceed with the subdivision. The developer can be required to follow certain minimum standards in the construction of curbs and gutters, sidewalks, the necessary street pavement, water mains, sanitary sewers and drainage lines. Depending on the size of a development, it would not be unreasonable to require the developer to dedicate not only streets but also parks, playgrounds or sites for other public facilities. Proper subdivision controls also give protection to the subdivider and home buyer as well as insuring equal treatment and discouraging land speculation.

Public Improvements Program and Capital Budget

It is easier to implement the plan with a public improvements program, which is a long-range, 20-year plan for the spending of money on public improvements. The public improvements program identifies and lists all public improvements that will be needed during the planning period. The capital improvements program, which covers a five or six year period, is made up of estimates of the city's expenditures for operating and maintaining public services and for constructing capital improvements. Along with this, estimates are made of revenues from taxes, borrowing, and any other sources that will be necessary to help finance these expenditures.

Public improvements scheduling is based upon three criteria. First, the proposed projects must be selected on the basis of community need. Second, the projects must be developed within the financial resources of the city, based on a sound, financial plan. Third, the program must be kept flexible through periodic review and revision. Such a program is prepared each year listing proposals that should be carried out over a period of five to six years. This program would indicate from whence the monies would come, the priority of the proposals, the cost of the improvements and the relationship of the project to the city's overall financial setup.

Urban Renewal or Redevelopment

Under the Federal Housing Act of 1954, as amended, a program called Urban Renewal, which is a three-fold attack on slums and blight, is set forth. It calls for conservation of good areas within cities, the rehabilitation of declining areas, and the clearance of slums so that they may be rebuilt to good standards. If a city meets certain requirements as to a land development plan, good codes and ordinances, and citizen participation, it may obtain assistance in such a program from the Federal government with the government paying three-fourths of the cost of slum clearance projects. It is doubtful if Carthage would ever apply for Urban Renewal because of its size, but it could do so if the town wanted to, and if it met the standards which are set forth in a workable program. A workable program consists of the following elements:

1. Codes and ordinances
2. A comprehensive community plan
3. Neighborhood analyses
4. Administrative organization
5. Financing the program
6. Housing for displaced families
7. Citizen participation

Some other Federal programs which come under the Housing and Home Finance Agency, Public Housing Administration, Washington, D. C., are public housing and open space provisions, both of which can help to implement the plan.

Public housing's main purposes are elimination of slums and provision of adequate housing for low-income families. Slums are usually inhabited by people of a lower income group who cannot afford decent, adequate housing. Public housing affords these groups good housing at a low rent, based on their income.

The open space provisions of the Housing Act of 1961, as amended, provides grants for public acquisition of land for parks and recreational purposes. The Federal government will pay approximately 50 per cent of the cost. A grant such as this is one of the ways in which Carthage can bring about the implementation of the recreational section of the Plan.

Building and Housing Codes

Plan implementation is directly concerned with adoption and enforcement of a number of building codes enacted for the purpose of safeguarding public safety and health through the regulation of buildings. Building codes are designed so as to make sure that structures are sound from an engineering standpoint. The requirements are that a structure must be built adequately to provide for fire protection, ventilation and the necessary strength so as to avoid collapsing. Also such codes as plumbing, heating and electrical codes are important in implementing the plan. Housing codes are designed to protect the occupant of the structure by the following ways --

- to insure there will be no overcrowding;
- to provide adequate separate sanitary facilities;
- to provide adequate light and air;
- to provide adequate human environment by arrangement and design of rooms.

SUMMARY

SUMMARY

The Land Development Plan is the culmination of studying and analyzing the regional setting of the town, natural features, population and economy, social characteristics, and existing land use. The Plan designates areas for future residential, commercial, industrial and public development.

Emphasis has been put on schools, recreational areas, public building sites, and other public facilities, and an attempt has been made to point out shortcomings in these areas. Utilities have been covered with the idea that these facilities should serve the areas of potential development with the least cost in supplying these facilities to the areas. The thoroughfare plan was derived from existing knowledge of local circulation patterns and traffic volumes. Prevalent problems have been discussed, and throughout this report proposals have been made in an effort to correct a poor situation.

This report is a guide to help Carthage and its environs develop in an orderly direction. In order to do this it must be remembered that planning is a continuous process. In fact, the Land Development Plan will never really be completed because times and things are always changing. Consequently, it is flexible. It is not possible to foresee changes and circumstances which may affect future growth and it may be necessary to modify the goals and objectives setforth. Also, when actual projects are undertaken it may be necessary to provide for a more detailed analysis than that which is given.

"The future belongs to those who prepare for it" and subsequently, Carthagians can make their own environment but it depends on individual initiative and drive by the citizens, government and civic organizations.